MAY -2 1949
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Southern FLIGHT

Including MODERN AIRPORTS

AERO

MAY 1948
35 cents

COPY TO L. of C. MAY -3 1949

4-PLACE CESSNA 170

(See pages 24 and 25)

"MOST COMFORTABLE, ROOMY PLANE"...say Navion Owners

"A REALLY FULL-SIZED 4-PLACE CABIN"—"Most comfortable"—"Restful and relaxing"—"Superb visibility"—those are the answers several hundred *Navion* owners gave when asked what they thought of their planes. So what a surprise they'll get when they see the new *Ryan Navion*, which has gone even further to earn the title of America's most comfortable personal plane. Front seats are individually adjustable, ventilation is draft-free, and improved sound insulation makes the 1948 model one of the quietest airplanes. "Performance!"—"We get there fast—Safely"—"Short field landings and takeoffs" were other top-ranking comments. In the modern, service-refined design of the 1948 *Ryan Navion* are blended all of the most desired characteristics...no unbalanced extremes in performance have been sought at the sacrifice of other important qualities.

"SAFE"—"EASY-TO-FLY" was No. 1 on the long, favorable list of comments about the 150-mph *Navion*. Almost every owner stressed stability in rough air, comfortable, relaxed flying and effortless control. Inter-connected rudder and ailerons and special wing design are some of the reasons why *Navion* gives super-smooth flying.

"RUGGED"—"DON'T HAVE TO BABY IT"—"Can really take it"—these were high on the list of *Navion* owner-comments. The ability of the thick-skinned, all-metal *Navion* to stand punishment, and the sturdy tricycle landing gear with its oversized wheels and tires, are some of the reasons why the *Navion* excels.

1948 IMPROVEMENTS

1. **BEAUTIFUL HIGH-GLOSS ENAMEL FINISH** in choice of four brilliant colors.
2. **COMPLETELY NEW FUEL SYSTEM** with auxiliary electric fuel pump.
3. **IMPROVED DRAFT-FREE VENTILATION** with a greater air circulation.
4. **PERFECTED SOUND INSULATION** assures restful flying comfort.
5. **NEW INTERIOR STYLING** for greater beauty and comfort.
6. **RANGE INCREASED** to 750 miles maximum with optional 20-gallon auxiliary tank.
7. **FURTHER MECHANICAL REFINEMENTS** give better performance from plane, engine and propeller.

Write on your letterhead for illustrated booklet and name of dealer near you who will gladly furnish flight demonstration. Please state if FREE business trip by Navion interests you.

The Thoroughly Proven Post-War Plane *Ryan Navion*

Rely on Ryan RYAN AERONAUTICAL COMPANY • 605 LINDBERGH FIELD, SAN DIEGO 12, CALIFORNIA

IN ARKANSAS
Flying Red Horse
SERVICE IS TOPS!

AT ARKADELPHIA at the Arkadelphia Municipal Airport, personable Josh Lee, Airport Manager, in the photograph at left, smilingly greets visiting fliers. In the foothills of the Ozarks, the airport is a convenient stop on your flight plan and its top-flite services include Mobilgas Aircraft and Mobiloil Aero.

UNITED AIR SERVICE headquartering at El Dorado, operates also at Camden and Pine Bluff with flight schools, charter flying and aircraft dealerships. In the photo at right is Mrs. W. L. Carson, Office Manager at El Dorado and wife of W. L. Carson, Secretary and Treasurer of United Air Service. In the photo at left, Lamar Brodnax, United's Manager at Pine Bluff, is on the left facing Goode Stewart, Magnolia Assistant Manager for Arkansas.

FORWARD WITH *Aviation*

Mobilgas AIRCRAFT Mobiloil AERO

MAGNOLIA PETROLEUM COMPANY

DALLAS 1, TEXAS

Works in five states ...home every night

SUPPOSE your business were spread out over Missouri, Illinois, Kansas, Iowa, and Kentucky. Five big states. And suppose you had to travel constantly around that area—like the top men working for the Missouri Insurance Company. Using ordinary transportation, you'd live out of your bag, and see your home once a fortnight, if you were lucky.

President H. G. Zelle and his associates got tired of doing that, so the firm bought a Bonanza. "With it," he says, "we are no more than 2½ hours from our most distant office. Trips formerly requiring several days can be completed in comfort and without fatigue *in one day*."

Economy? Operating cost as low as 1¢ per passenger mile! Of a recent trip, Mr. Zelle says: "Fare by other means would be about $47 for myself and son. Fuel and oil cost by Bonanza—$6.80."

A note on your company letterhead will bring an informative brochure on "The Air Fleet of American Business." Write today to Beech Aircraft Corporation, Wichita, Kansas, U. S. A.

Top speed, 184 mph; cruising speed, 172 mph; range, 750 miles

BEECHCRAFT BONANZA MODEL 35

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

8 Big-Plane Features

MAKE FLYING SAFE AND EASY IN THE *Swift 125*

Hydraulic Flaps

400 Mile Range

Navigation Lights

Metal Top Canopy

Steerable Tail Wheel

All-metal Construction

48 mph Landing Speed

1000 fpm Rate of Climb

140 mph Cruising Speed

Hydraulic Shock Absorbers

Self Starter and Generator

Lighted Compass (deluxe models)

Two-way GE Radio (deluxe models)

Aeromatic ® Propeller (deluxe models)

On the airlines it is *safety first,*
and next after safety comes *profit.*
And on the airlines you will find nothing
but *all-metal, low-wing airplanes* with *retractable landing gear.*

Now we do not claim that the Swift 125 is a miniature airliner, but we do say, and most Swift owners agree, that the Swift 125 is the only 2-place airplane with these modern airline features that make personal flying pay its own way in utility and time saved.

You will find the Swift 125 easy to fly, with very safe stall characteristics, and suitable for getting in and out of the smallest airfields. And the Swift 125 is the only moderately priced airplane with the speed, range and stability you need for dependable, profitable cross country flying. You are welcome to fly and try a Swift 125 at your Dealers. Write for the name and address of Dealer near where you live.

$3,495 STANDARD 125 H.P., F.A.F. DALLAS
Deluxe equipment listed in this ad costs about $500 extra. Immediate delivery.

Swift means thrift

The all-metal, weather-tight Swift does not suffer from exposure to the elements when you have to "hangar" it out of doors. Quickly replaceable wing tips and wing sections save you time and money if you happen to damage a wing.

The Swift 125 gives you 8 of the features that make the big airliners safe and efficient.

Feature	Commercial Airliner	Swift 125
All-metal Construction	V	V
Low-wing design	V	V
Retractable Landing Gear	V	V
Hydraulic Flaps	V	V
Hydraulic Shock Absorbers	V	V
Navigation Lights	V	V
Variable Pitch Propeller	V	V
Self Starter and Generator	V	V

No other 2-place personal airplane gives you ALL of these features.

FLIES HIS SWIFT FOR 5¢ A MILE

"My son, Donald H. Sykes, has used the Swift about 400 hours and has been flying commercially every day for the past 15 months . . . in all kinds of weather. Our cost has been approximately 5c per mile for all expenses incurred, including insurance. During this period of time he has never had an accident of any kind and he is thoroughly sold on the Swift as the ideal personal airplane." —HERBERT B. SYKES, Chicago, Illinois

Swift

TEXAS ENGINEERING & MANUFACTURING CO., Box 6191S, Dallas, Texas

OTHER TEMCO PRODUCTS: U. S. and foreign governments and airlines use our facilities for aircraft modification, conversion and overhaul in important volume. General products include vending machines, Coca-Cola truck bodies, metal cabinets, and parts for many products.

"No Stuck Rings or Clogged Oil Screens" with

FLIGHT TESTED Sky Ranger AVIATION OIL

says Reed Pigman, Owner
American Flyers
Fort Worth

AMERICAN FLYERS

January 30, 1948

Premier Oil Refining Company of Texas
P. O. Box 1508
Fort Worth, Texas

Gentlemen:

For the past few months, we have been using Premier Sky Ranger Aviation Oil exclusively in all of our aircraft engines.

These engines vary in size from the 65 horsepower engines used in our small training aircraft to the large twin row engines used in our Douglas DC-3's.

Since we started using your oil, all of these engines have been functioning perfectly with no stuck rings or clogged oil screens, and the periods between oil drains have been considerably increased.

I thought that you would like hearing about how successful your oil has been in our equipment.

Very truly yours,

AMERICAN FLYERS
Reed Pigman, Owner

Refined from Pennsylvanian Geological Age Crude Oil from the fields of Ranger, Texas

Ask for

SKY RANGER Aviation Oil

At Your Airport

PREMIER

OIL REFINING COMPANY OF TEXAS

FORT WORTH 1, TEXAS

MAY, 1948 VOL. XXIX, No. 5

Southern FLIGHT

Including MODERN AIRPORTS

COVER: First Cessna 170 demonstrator in Texas as photographed at the Flying L Ranch near San Antonio. Simplicity, roominess and comfort and economical performance impressed The Editors during their demonstration. The 4-place 170 has a 145 Continental, fixed-pitch Met-L-Prop, useful load of 1,000 lbs.; cruising speed of over 120 mph., range of over 4 hours, rate of climb of 690 fpm. Price: $5,475.

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AIR Report

Significant Trends in the News

Military Lightplane Contracts

Congressional appropriations for air defense expected this session will start military action for quantities of liaison aircraft, with lightplane producers expecting contracts for types similar to NC'ed personal planes. Both 2-place and 4-place types are believed to be in line for military orders. Such contracts will greatly benefit lightplane producers at a time when commercial sales, while improving over recent bad-weather months, are at or near profitable minimums. If NC'ed models are purchased, lower prices for both military and civilian purchasers are a possibility, depending on volume.

Twin Beech Demand Revived

An unexpected revival of orders for twin-engine Beechcrafts during April apparently resulted from speculation on the part of business executives and firms regarding effects of the rearmament program, inflationary tendencies in the national economy and war talk. Orders for fourteen of the D18S twins were received during the first two weeks of the month and used twins were bid higher when found available. War or no war, government controls in the forthcoming rearmament program might be accompanied by restrictions in materials which in turn would create a growing need for executive airplane travel as industry intensifies its search for sources of supplies and sub-contracting. It has happened before, one observer commented.

ATC for Crosley Engine

An Approved Type Certificate has been issued on the 26½-hp. aircraft conversion of the high-speed, sheet metal, liquid-cooled Cobra engine which Designer Al Mooney of Wichita, Kansas, adapted from the Crosley auto engine for his experimental single-seater aircraft. Steel-and-rubber wedge belts serve as a geared propeller drive in the airplane installation and dual ignition is provided. A similar conversion will soon be tried in an experimental helicopter project in Texas.

2,400 Miles Non-Stop in Luscombe?

Chet Keasling, formerly with Lockheed and now Luscombe dealer on the East Los Angeles Airport, is planning to fly a non-stop great circle route of about 2,400 miles from L. A. to New York during the second week in May, given favorable winds. He has modi-

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Just among ourselves

EDITORIALS

SIGNS OF THE TIMES

THE long prevalent prediction that considerably more fixed-base operators are due to fall by the wayside within the next few months need not be borne out even though it may sound today like gospel. There are concrete optimistic signs everywhere to bear out this faith in the future of the business.

In the first place the end to one of the worst winters in flying history has not only improved the general atmosphere around all airports but has also started the dollars flowing again into the operator's cash register. February personal plane sales represented the low point with 441 deliveries while March deliveries hit 569 with future monthly delivery figures reasonably expected to continue improving. The used market is also picking up with prices on late model planes firming up. Only the junk remains unsaleable at any price.

If you make any sort of extended cross-country trip you learn that more and more operators are beginning to make a play for transient business and for commercial students instead of depending entirely on the ephemeral and uncertain GI flight training program. What healthier index than that could one look for in this particular phase of aviation? It is especially apparent everywhere that the alert, clean, business-like establishment with good, late model airplanes around the field is again optimistic and operating in the black.

Grass-root aviation organizations are beginning to work more realistically on the problems of long-range aviation planning and development. An outstanding example of this kind of program is that being carried on by the Oklahoma Aviation Association in co-operation with the Oklahoma Aviation Commission. The "Sooners" are taking air age education and the need for airports into every community of the state, showing the smaller towns how small landing strips can be established for as little as $3,000 and teaching the young and the old alike that the airplane is a reality and not just some fancy machine coming along in the future. Oklahoma operators and private flying enthusiasts are taking aviation to the people — not waiting for the people to come to them. It is a most commendable and worthwhile effort, bearing out the belief many of us have held for years that such people as New York and Washington theorists, the highly organized self-interests operating in fancy hotel suites or those manufacturers who ignore the economic welfare of their fixed-base operator sales outlets, simply can't put America on wings.

So it's a good sign that many of the small rugged aviation business men operating on several thousand big and little airports over the nation are beginning to come out of the woods once again. They have been pretty badly burnt by such a variety of elements as war-born opportunists, a miserable winter, an almost catastrophic surplus policy of Uncle Sam and by sales executives of the bigger outfits who simply didn't know what it was to have a conscience. In spite of the beating they took, the nation's fixed-base operators are showing remarkable signs of recovery — in fact at a more rapid tempo than their brothers in other fields of aviation enterprise. It looks like the principal reason for all this health stems from the progressive operator's willingness to do something for himself rather than wait for someone else to save him.

NEW HORIZONS FROM ENGINEERING

THE national aviation spotlight was focused again on the Southwest last month when two significant announcements were made one that Chance Vought Division of United Aircraft Corporation will move from Stratford, Connecticut, to the former North American Aviation plant at Grand Prairie, near Dallas, and the other that Texas A. & M. College had signed up Fred E. Weick, designer of the two-control Ercoupe, who will fill a distinguished professorship and direct the school's newly created Personal Aircraft Research Center.

The principal significance in these two announcements is found in the engineering aspects, especially in the fruitful implications for the Southwest as a major and permanent aeronautical engineering and research center. Heretofore these basic elements of aviation progress have clung closely to the busy beehives on the Atlantic and Pacific seaboards, notably around MIT and NACA installations in the East, and around Cal Tech and the southern California manufacturing colony in the West.

The Southwest has ever been one of the richest markets for the commercial airplane and its service as well as the nation's principal military aviation training area. During the past five to seven years it has developed into a major aeronautical manufacturing and distribution area. Except for the engineering staffs at Luscombe and Consolidated Vultee, however, there's been a paucity of engineering talent and we could not compete with the other colonies of heavy aviaton industry.

The advent of Chance Vought, one of the foremost engineering-wise aircraft concerns in the world, and the establishment of A. & M.'s Personal Aircraft Research Center, the only one of its kind in the world, certainly closes the last remaining gap which kept the southwestern section an "also ran" as far as the big leagues of avia-

(Continued on page 30)

PRIVATE FLIERS EVERYWHERE!

Join Us in Whooping It Up May 21-22

BANG UP PARADES

ATTRACTIVE COWBELLES

NOVEL EVENTS

DANCES

EXCITING CONTESTS

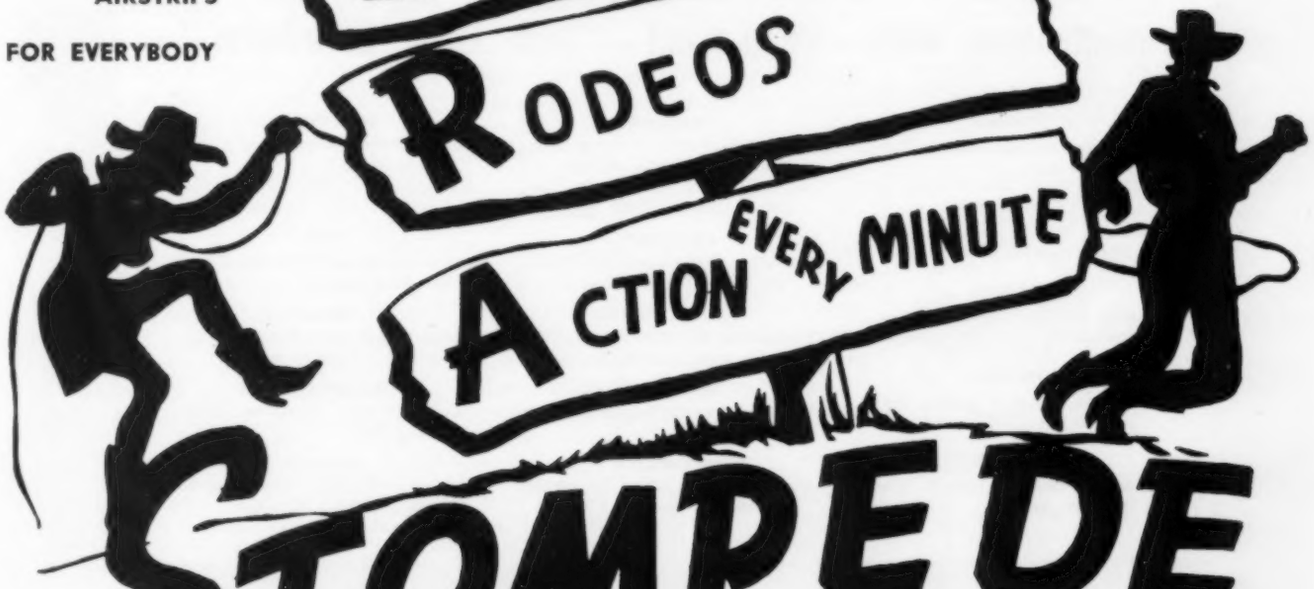
RODEOS

ACTION EVERY MINUTE

The First National Cowboy Day To Be Held Anywhere

- Tour of Ranches
- Shooting Exhibition
- Hoss Races
- Judge Roy Bean's Court
- Sheep Dog Trials
- Cowboy Bands
- Armadillo Races
- Square Dancing

PLENTY OF AIRSTRIPS FOR EVERYBODY



STOMPEDE

May 21-22

BANDERA, TEXAS — **32 Air Miles West of San Antonio**

ECLIPSE-PIONEER

Enhances its fine name and quality of product with a nation-wide, factory-supervised, distributor organization for complete service and maintenance of your Eclipse-Pioneer aircraft products!

For assistance with your service problems — to expedite your maintenance work — we present — "Your Local Distributor."

ALASKA
Anchorage, Pacific Airmotive Corp., Merrill Field

CALIFORNIA
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FLORIDA
Miami, Barfield Instrument Corp., Hangar #1, International Airport

GEORGIA
Hapeville, Aviation Supply Corp., Atlanta Municipal Airport

ILLINOIS
Chicago, Snyder Aircraft Corp., 5315 W. 63rd St.

KANSAS
Kansas City, Pacific Airmotive Corp., Hangar #5, Fairfax Airport
Wichita, The S. A. Long Co., Inc., 650 E. Gilbert

KENTUCKY
Louisville 4, Ellingsworth Auto Electric Co., 1003-05 E. Broadway

MASSACHUSETTS
East Boston, Inter-City Aviation, Inc., Boston Municipal Airport

MICHIGAN
Detroit 5, Servair, Inc., Detroit City Airport

MINNESOTA
Minneapolis 6, Airwings, Inc., Wold-Chamberlain Field

NEW YORK
Buffalo, Buffalo Aeronautical Corp., Buffalo Airport
Mineola, L. I., Standard Aircraft Equipment Co., Roosevelt Field

OHIO
Cleveland, General Airmotive Corp., Municipal Airport

TEXAS
Dallas, Southwest Airmotive Co., 3416 Love Field Drive

WASHINGTON
Seattle, Pacific Airmotive Corp., Boeing Field

CANADA
Montreal 18, P.Q., Aviation Electric Limited, 3483-5 Park Ave.

Eclipse-Pioneer DIVISION OF Bendix AVIATION CORPORATION
TETERBORO, NEW JERSEY

The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

Remember the average airline pilot we told you about a few months ago?

We gave you his height, weight, hours, and everything but the color of the mole on his back.

Well, now we can tell you about the average flying farmer, of which 558 are represented in the following figures:

He's 36 years old, or a little older than the usual pilot. He has about 439 hours and has been flying about 29 months; so, you see, he's not a novice.

His plane really works for its feed. He gets much more utility out of it than the big-city boys, using it for everything from fence-riding to shopping trips.

And we're pretty sure that a cookie as smart as this demands the same high quality in his aviation petroleum products (meaning Gulf Aviation Products) as he does in his farm petroleum products (meaning Gulf Farm Aids)!

WHAT AND WHY

Once upon a time, people were so impressed by the fact that airplanes *flew* that they didn't notice much else about them.

Today, these same people are much more interested in *what* an airplane does *when* it flies. They're interested in how much utility they can get out of it; in how much more work they can get done with one; in how soon it will pay for itself.

Same thing with oils.

There was probably a time when people were so impressed by the fact that oil lubricated that they didn't notice much else about it.

Today, they're darn curious to know *what* the oil does when it lubricates. They're interested in *how much* metal-to-metal-wear prevention they get out of it; in *how much* more actual lubrication they get with a given brand of oil; in how quickly a premium oil like Gulfpride repays its initial cost.

That's why we keep telling you about the Alchlor Process, the extra refining step that removes an extra 15% of non-lubricating impurities from an already refined oil . . . to make Gulfpride Oil.

Because once you try Gulfpride in your own engine, you'll have a fistful of proof that it lubricates *better* and *longer* and *cheaper!*

NO NAME DEPT.

The mail is about 50-50.

Half the letters say keep the Little Known Facts Dept., the other half want Pet Pilot Peeves or Favorite Flying Gripes. Most of the original suggestions, such as "Service Hints For Maintenance Shops," would be more interesting to the lad who suggested them than to the whole gang of Perch Pilots.

You'll just have to keep up the requests until we get a better idea of what you want, gents.

Meanwhile, will you skyrockets who are holding out for the Peeves or Gripes Depts. start sending your Pet Peeves in?

Can't be a Pet Peeves Dept. without Pet Peeves, can there?

Unload all your flying hates (address above) and you'll feel considerably relieved at having gotten them off your chest. And so will we at having gotten some more material for the Perch.

Gulf Oil Corporation and Gulf Refining Company... makers of

GULF **GULF AVIATION PRODUCTS**

WHEN YOU SWING THE PROP AND SHE STARTS "SOFT" WITH WEAK COMBUSTION
PLUS BLACK EXHAUST SMOKE —IT GENERALLY MEANS THAT YOU'RE OVERPRIMED.
KOFF!
FER THE LUVVA MIKE, STOP WASTING THAT...
GOOD GULF AVIATION GASOLINE!
GULF

It's Good Flying in Georgia and the Carolinas !!

TO GO *Swiftly*— GO BY THE *Swift 125*

"THE MORE-FOR-YOUR-MONEY AIRPLANE FOR BUSINESS AND PLEASURE"

- **MORE MILES PER HOUR!**
- **MORE MILES PER GALLON!**
- **MORE SAFETY FROM ALL-METAL CONSTRUCTION!**
- **MORE EASE IN FLYING!**
- **MORE BEAUTY—MORE PRIDE IN OWNERSHIP!**

For YOUR *Spring flight demonstration,*

write to Paul L. Cromelin now.

Try **for yourself** the More-For-Your-Money Swift 125
At $3,495 for the Standard, $3,995 for the De Luxe

Wide-awake aviation businessmen take notice: Swift Sub-Dealers are now being appointed. Write to the address below for full information if you are interested in the Swift More-For-Your-Money Franchise.

PAUL L. CROMELIN

Swift Factory Dealer for Georgia and the Carolinas

Daniel Field **Tel. 3-5014** **Augusta, Georgia**

Better Travel by Private Plane

Speed, flexibility and economy of new-model planes pay dollar dividends to business users.

By Neil B. Berboth

PART II

WHEN an individual or a business organization uses a vehicle for transportation purposes, the principal criterion of its cost in relation to time saved and business accomplished is the utilization of the vehicle and the cost per mile while it is being utilized. At the root of this is the fact that useful vehicles are used for a series of trips from A to B to C and back again, adding up to miles, plus the tendency of people to spend about the same amount of time traveling, regardless of the vehicle.

For example, the average automobile is used approximately 300 hours per year to cover about 9,000 miles. Before we had automobiles, horses and teams of various sorts were also used at about the same rate, covering only about 1,800 miles but at a fraction of the total cost of the automobile. Indications now are that really useful airplanes will be used about the same amount of time; studies made by Beech show that Bonanzas were used at the rate of 400 hours per year during last Spring and Summer, and at the rate of 266 hours per year during this past Winter. The average will probably come close to 300 hours.

On the record, then, it appears that people are able to average about six hours a week traveling; they are willing to spend more money to cover more miles in the same six hours. This process of increasing personal travel is a slow one, requiring a period of many years to develop, and with many economic and social adjustments required along the way. Let us remember that the technical and associated economic development of the airplane, air navigation and airports has proven a far more difficult proposition than the similar development of the automobile and good roads. Only at this late date are we seeing the advent of private aircraft comparable in comfort, mobility and operating cost to the automobile, and with operating speed four to five times greater.

Speaking from the standpoint of business use, one man in one automobile can cover the same yearly mileage in the same time as five men with five horses could cover, and at about the same total travel cost. Putting it that way, the advantages of the faster form of travel are all too obvious. But it should be equally obvious that the 4-place private airplane of today offers the same advantages over the automobile, or over rail travel. One man in a Cessna 170, a Stinson Voyager, or a Luscombe Sedan can cover the same yearly mileage in the same time as four men on trains or in four automobiles could cover, and at the same or less total cost. Likewise, one man in the faster Beech Bonanza or Bellanca Cruisair can cover the same yearly mileage in the same time as five men on trains or in five automobiles could cover, and at considerably less total cost.

The possibilities of these 4-place planes, when applied to business use, are tremendous. Such possibilities cannot long go unrecognized in our highly competitive business structure. Their speed, mobility and economy offer a variety of advantages to all types and sizes of business organization, depending upon particular needs.

TABLE 3

Comparison of Travel Time and Cost, 215-Mile Trip

PRIVATE PLANE, 1948 FOUR-PLACE (In order of economy)	ELAPSED TRAVEL TIME Hours	Mins.	TRAVEL COST	MEALS AND TIPS (Traveling)	TOTAL COST
1. Beechcraft Bonanza	1	21	$19.50	$.....	$19.50
2. Piper Family Cruiser	2	12	20.02	.....	20.02
3. Bellanca Cruisair	1	31	20.04	.....	20.04
4. Cessna 170	1	54	21.91	.....	21.91
5. Aeronca Sedan	2	09	23.52	.....	23.52
6. Ryan Navion	1	34	23.74	.....	23.74
7. Luscombe Silvaire Sedan	1	50	24.23	.....	24.23
8. Stinson Voyager	1	50	24.34	.....	24.34
AUTOMOBILE	6	00	21.03	2.30	23.33
FASTEST RAILROAD	3	35	21.42	4.00	25.42
SCHEDULED AIRLINE FASTEST SERVICE	1	05	$31.86	.....	$31.86

NOTES: (1) Distances are the actual for New York-Washington trip; used for example purposes only. (2) Airline and railroad fares and times are from the American Airlines study, "Plain Talk About Business Travel"; include U. S. Transportation tax, pullman lower berth or chair, premium speed and service flights; from terminal to terminal. (3) An average of two passengers is assumed on all modes of transport (approximate average of automobiles and four-place planes according to published statistics). More passengers would make the private plane look even better. (4) Meals and tips for private plane and automobile assumed average of $1.15 per person per meal; railroad, $2. (5) Automobile of 8.8 cents per mile is used; obtained as average of several fleet owners costs. Distances from H. M. Gousha Co. road map.

More Territory, Less Travel Time

1. A business organization can extend its business boundaries four to five times and thus increase annual business potential four to five times with the same number of personnel and less travel time, and with only a minor increase in travel cost and investment.

For example, take a small firm doing $150,000 gross annual sales in a small area. Two sales representatives and two $2,300 automobiles are used, each traveling 14,125 miles in 471 hours, a total of 28,250 miles and 942 travel hours. Two company executives annually travel 3,000 miles each by rail, a total of 6,000 passenger miles. Fifty per cent of the time the men do, or can, travel together, making a total of 4,500 actual ground miles covered in 113 hours (150 passenger hours).

Two planes can do this job several times over with less actual travel hours and the same personnel. To compare, let's use two different types of 4-place

planes, the Cessna 170 as representing the lower-cost, slower type and the Beech Bonanza as representing the higher-cost, faster type. It is readily apparent that a new type of business efficiency becomes possible by using these aircraft. The two Bonanzas cover five times the area in less travel time, at but small extra cost, and at a much lower cost per dollar of business potential. The Cessna 170 shows almost the same efficiency, increasing travel mileage and business potential four times. All of the planes will fall somewhere within these categories with varying degrees of efficiency. The results are tabulated in the following analysis:

TABLE 4

Comparison of Travel Time and Cost, 724-Mile Trip

PRIVATE PLANE, 1948 FOUR-PLACE (In order of economy)	ELAPSED TRAVEL TIME Hours	Mins.	TRAVEL COST	MEALS AND TIPS (Traveling)	TOTAL COST
1. Beechcraft Bonanza	5	01	$65.67	$	$65.67
2. Bellanca Cruisair	5	36	67.48	.....	67.48
3. Piper Family Cruiser	8	24	67.40	2.30	69.70
4. Cessna 170	7	24	73.78	2.30	76.08
5. Ryan Navion	5	44	79.93	.....	79.93
6. Aeronca Sedan	8	14	79.21	2.30	81.51
7. Luscombe Silvaire Sedan	7	09	81.59	2.30	83.89
8. Stinson Voyager	7	09	81.96	2.30	84.26
FASTEST RAILROAD	16	00	90.96	8.00	98.96
AUTOMOBILE	20	42	73.22	7.00	80.22
SCHEDULED AIRLINE FASTEST SERVICE	3	20	$100.28	.....	$100.28

NOTES: (1) Distances are the actual for a New York-Chicago trip; used for example purposes only. (2) Three hours maximum flight between gas stops assumed for private planes; 30-minute gas stops allowed. (3) Meals for private plane travelers included on flights six hours or longer; time for meals included in gas stop time; two passengers assumed for all modes of transportation. (4) All other qualifications same as Table 3.

	Present Ground Transportation (2 Automobiles & Rail)	2 Beech Bonanzas	2 Cessna 170's
Total Mileage Covered Per Year (Gr. Mls.)	32,750	163,750	131,000
Total Travel Time Per Year (Hrs.)	1,092	870	985
Annual Vehicle Cost of Operation	$ 2,132	$ 10,092	$ 8,768
Annual Rail Transportation	282		
Annual Payroll Travel Cost, Salesmen, $2.50 per hr. ea.*	2,355	1,875	2,125
Annual Payroll Travel Cost, Executives, $5 per hr. ea.*	750	600	675
Total Travel Cost	$ 5,519	$ 12,567	$ 11,568
Annual Business Potential ($ Volume)	$150,000	$750,000	$600,000
Capital Investment in Vehicles	$ 4,600	$ 18,890	$ 11,956
Transportation Cost ($) Per Dollar of Annual Business Potential	$ .037	$ .017	$ .019

*Annual Payroll Travel Cost denotes time lost traveling in dollars.

"Payroll travel cost" is a major factor in which airplane travel offers substantial savings, as follows:

Same Territory, Fewer Offices

2. A business organization can cover the same territory, but can do it with 20-25 per cent of the transportation cost and overhead expense.

As an example for this one, let's assume a fairly large business organization, with branches in ten key cities east of the Mississippi, these branch offices necessary in order to cover the territory properly. Five personnel in various merchandising and service capacities travel from each office, using automobiles exclusively. This time, let's forget the additional travel of other executives and concentrate on the branch office travel, and for this hypothetical case assume that the overhead to maintain each office is $100,000 including staff personnel and facilities, and that each representative receives $6,500 per year ($3.25 per hour) in salary and expenses.

Each representative travels 14,125 miles per year in 471 hours making the total for each branch 70,625 miles and 2,355 hours, or 706,250 miles and 23,550 travel hours for all branches. Again using the Cessna 170 and the Bonanza as typical examples of the efficiency range of the 4-place airplanes, here's how it comes out:

	Present Ground Transportation (Automobile)	Beech Bonanza	Cessna 170
Number Branches	10	3	4
Number Vehicles	50	9	12
Number Personnel Traveling	50	9	12
Number Mls. Traveled Annually (Gr. Mls.)	706,250	706,250	706,250
Number Travel Hours	23,550	3,762	5,304
Branch Overhead	$1,000,000	$300,000	$400,000
Representatives Salaries and Expenses	325,000	58,500	78,000
Representatives Payroll Travel Cost	76,537	12,226	17,238
Vehicle Operating Cost	53,300	44,631	49,716
Total Cost	$1,454,837	$415,357	$544,954
Capital Investment in Vehicles	$ 115,000	$ 85,005	$ 71,736

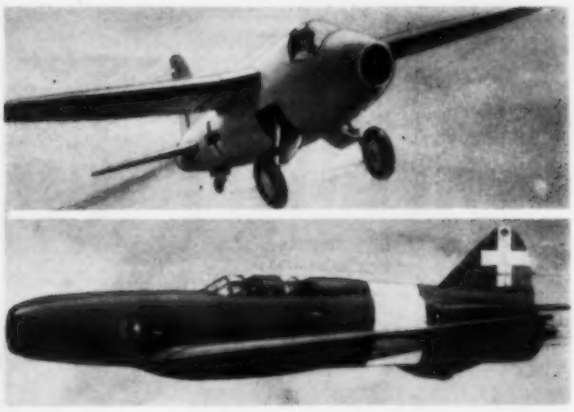
Here again the advantages of air travel are shown to be tremendous. And if this example appears to be far-fetched, just stop to think of how many branches, representatives and vehicles would be necessary to cover anything like the same territory with a horse. Of course, it wasn't always done that way—trains were used—but the comparison sticks because the plane offers the same time and cost advantages over the train and automobile as those vehicles do over the horse.

Same Territory, More Trips

3. A business organization can cover the same territory four to five times as often each year and develop its business more intensively, with the same potential results as shown in (1) heretofore. The same number of personnel and vehicles would be used, with but little additional investment and expense, and with a far lower cost-per-dollar of annual business potential.

4. A business organization can cover the same territory with the same frequency but spend four to five times as much time at each stop, or with

(Continued on page 30)



Famous "first flights" in exact likeness are Opel Sander RAK 1 (left), September 30, 1929; Heinkel 178 (upper right), August 27, 1939, and Caproni-Campini CC2, August 27, 1940.
—(Copyright, Thompson Products, Inc.)

HISTORY BY THE CALENDAR

Experts depend on Charley Hubbell's plane portraits for authentic details.

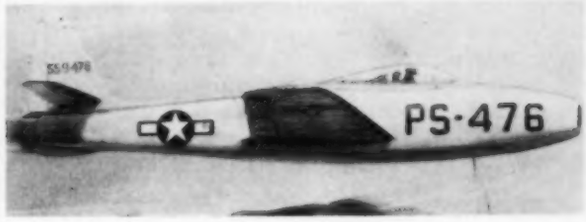
CONSIDER yourself fortunate if Charles H. Hubbell's aircraft portraits decorate your office or den. Charley is the artist behind the Thompson Products calendars which are becoming more and more valuable with aeronautical progress—valuable because of their detailed faithfulness and historical accuracy. For example, a lot of "experts" thought the world's first successful jet aircraft was an Italian Caproni-Campini CC2, which flew on August 27, 1940. But Hubbell's 1948 calendar has two German craft which predated it—the first rocket aircraft, a German Opel Sander RAK 1 which flew on September 30, 1929, and a Heinkel 178 which flew on August 27, 1939.

Charley, whose plane portraits are valued as reference sources in the Smithsonian Museum, Library of Congress, National Archives and NACA, did his first calendar 10 years ago. Since then he has done nearly 150 historically-accurate aircraft portraits. He spends months on research. Planning sometimes takes several years. His forthcoming 1949 calendar, devoted to personal airplanes, was planned during the war.

Hubbell holds pilot's license No. 9792 and likes to fly old-model planes as well as he enjoys modeling and painting them—"Sometimes I get an awful yen to get hold of a Travelair, Great Lakes or

(Continued on page 30)

Britain's first jet flight was on May 15, 1941, in a Gloster E28/39 (upper right). First U. S. jet flight was in Bell XP-59 on October 1, 1942 (lower left). Other Hubbell portraits include P-80A, P-84, XS-1 and FR1.
—(Copyright, Thompson Products, Inc.)



Skyway Patrol

Demonstrating how road blocks can be established with an airplane, Patrolman Howard Peters lands his Ercoupe on a highway in the El Paso desert country.

With volunteer planes and pilots, a Texas sheriff gets the jump on law breakers and operates rescue missions along the Rio Grande badlands.

By E. C. Wilson

LAW West of the Pecos took wings last month when Sheriff Allan G. Falby, of El Paso County, Texas, activated the Skyway Patrol by deputizing forty pilots in the El Paso area.

Captain Frank Keeney, formerly manager of the El Paso Municipal Airport, leads the group. The flying deputies were recruited as a volunteer group from private pilots, commercial pilots, instructors and operators in the El Paso vicinity. A large percentage of these men have thousands of hours flying time in the armed forces and wide experience in such missions as the Patrol will be called upon to perform. Patrolmen will use their own planes in the greater part, and operators of various flying schools and charter services will provide planes as needed. Planes available for this work are Navions, Fairchild PT's, Vultee BT's and AT's, and numerous Ercoupes, Pipers and Aeroncas. Ground elements that can work hand in hand with the flying sheriffs include a jeep carrying first aid and emergency equipment, an airport crash truck and radio-equipped cars and motorcycles of the El Paso Sheriff's Department.

The "wide open spaces" in the El Paso area embrace thousands of square miles of uninhabited desert stretched between the ragged and barren rocks of the Franklin mountain ranges and the Huecos and Guadalupe ranges to the East. The proximity of Old Mexico, with 800 miles of border along the Rio Grande, creates a vast territory for which Sheriff Falby is partially responsible. Mountains, desert, and border share alike in making such terrain a difficult one in which to keep law and order or in which to find lost persons, cars, forced-down airplanes or to perform rescue missions of other kinds. Skyway Patrol is the answer.

Many of the planes are equipped for night and instrument-flying, with radio facilities for communicating with ground personnel moving on the highways and roads. Organized facilities of the Patrol can locate and bring help to such mishaps in a matter of minutes or hours, when men in cars, or by necessity on horseback, might take days or weeks to reach the victims. Taking advantage of the many dried salt flats and level wind-blown areas in the desert, lightplanes can land and take off in many out-of-the-way places.

A fully-equipped ambulance plane, with a registered nurse or doctor aboard, can place adequate medical service at the site of an emergency quickly, where its delay would cost much in pain, suffering or loss of life. In spots so desolate that aid may be days in arriving, food and medical supplies can be landed near or dropped to the scene of the accident. The ambulance plane, a Stinson Voyager, is equipped with a stretcher, blood plasma and other medical supplies.

As a law enforcement agency, the Patrol will be called upon to aid in tracking down and apprehending criminals of all sorts who may feel a sense of security while trying to escape through or hide in this thinly-populated region. Liaison with police officers on the ground, road blocks and the movement of officers with alacrity are all functions these pilots will perform.

There is a lot of unfenced border in El Paso County between the United States and Mexico. Cattle frequently stray from one side to the other. Nowadays cattle rustlers are seldom heard of, but there are still a few who attempt to run cattle or other stolen property across the international border. Such things can be easily spotted from the air and information relayed to ranchers or authorities. Aid can be given in guarding the border against the spread of hoof and mouth disease, which would be catastrophic if allowed to gain a foothold in Texas.

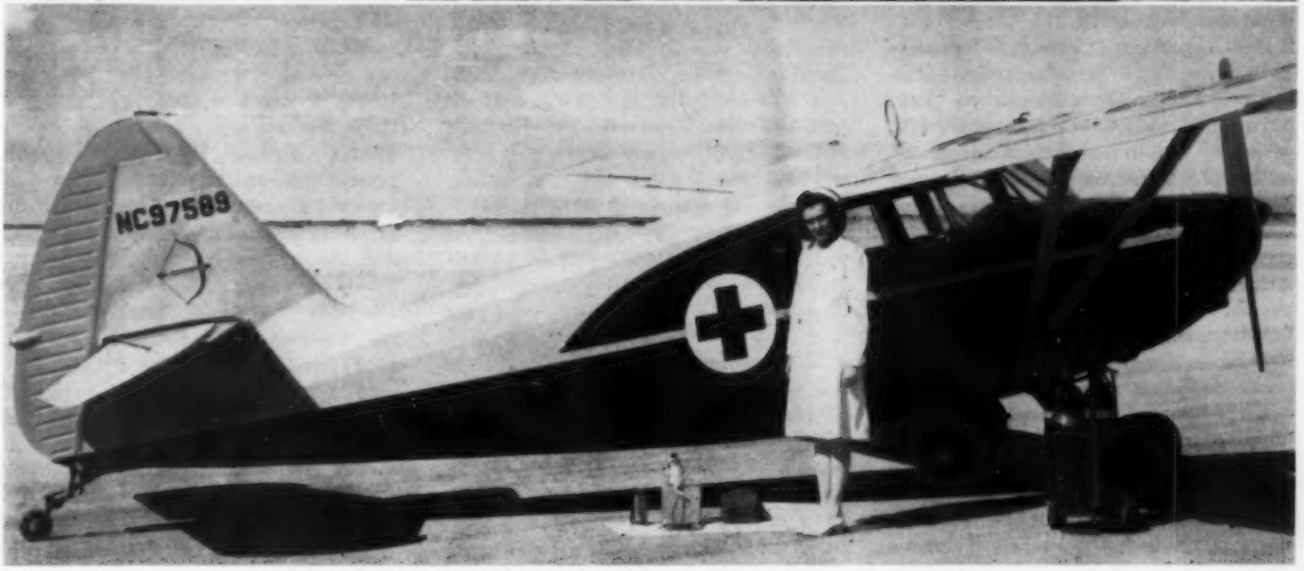
Photos by the Author

"Dilberts" and "Hotshot" pilots will receive their share of attention from the deputies of the Patrol. Some self-styled "hot" pilots cannot keep from buzzing the girl friend's house or the farmer at work in his field. A few very serious accidents have occurred from this and similar causes. All violators of safe flying regulations will receive prompt and severe disciplinary action when spotted by or reported to the Skyway Patrolmen. They are pledged to safe, sane and correct flying for the safety of the community and the furtherance of private aviation.

These and many other services will be done by the Skyway Patrol. Already, many missions have been carried out by these men, who give their time and the use of their planes cheerfully for whatever tasks may be asked, and who wear their badge and uniform with pride and honor in service to their neighbor. ★ ★ ★

Across the boondocks goes a first-aid jeep with Deputies Ormsby, Kinsel and Qualtrough. Skyway Patrol has its own distinctive insignia and badges, is available for service around the clock.

Sheriff Falby is in the front cockpit below, with Flying Deputy Frank Keeney in the rear. Patrolmen Qualtrough, Treharne and Cordell practice first-aid with Sheriff Falby (right) while Deputy Kinsel radios a pilot who spotted the "crash." Below is the Patrol's Stinson ambulance.



Aerial view of former North American Aviation factory near Dallas, showing "B" Plant (foreground) which is being occupied by Chance Vought Aircraft in its transfer from Stratford, Conn. Hensley Field, also used by Army and Navy is in far background.

Gone To Texas

Transfer of Chance Vought from Connecticut to Dallas expands the Southwest's growing aviation industry.

By George E. Haddaway

WE couldn't whip the Connecticut Yankees and their allies in the War Between the States principally because our Confederacy was predominantly an agricultural country without the industrial means for waging successful war. However, since Appomattox Courthouse, we've gradually been dismembering Yankee industry and moving it South of the Potomac and Missouri Rivers. Our latest acquisition is the Chance Vought Aircraft Division of the United Aircraft Corporation, now in the process of moving from Stratford, Connecticut, to Dallas. This month the first of more than 1,000 freight cars full of tools, jigs, fixtures and equipment will arrive from Stratford at the old North American Plant "B" near Grand Prairie, Texas, and adjacent to Hensley Field.

Last year the U. S. Navy, in its typical wisdom, grabbed off this plant from the surplus list and began looking for a tenant. As far as Texas is concerned, they couldn't have picked a better outfit than Chance Vought. You could not buy at any price the brilliant engineering staff now enroute to Texas, a wealthy human resource which spells the difference between being a mediocre aeronautical center or one of the major aviation engineering, research and manufacturing colonies in the world. The Chance Vought move to Texas spells that difference for the North Texas manufacturing center. It's the principal gain from Texas' standpoint. Plus the fact it's permanent. The editorial page this month goes deeper into that subject.

Texas Advantages

CV's General Manager Rex Beisel who designed the gull-wing Corsair, said that the Texas facilities offer the following advantages over its Connecticut plant:

1. Larger and more efficient manufacturing quarters capable of considerable expansion in case of an emergency;
2. Better flying facilities and flying weather for high-speed jet airplanes which will constitute the majority of the division's output;
3. Considerably lower maintenance cost;
4. Dispersal to an inland position in the interest of national defense.

Although Beisel will not speculate as to the number of employes necessary for the Texas operations, the company now employs more than 8,000 workers at Stratford.

The Dallas "B" plant, office and buildings, plus the "A" and "B" hangars, have approximately 1,800,000 sq. ft. of floor space as compared with 1,550,000 sq. ft. in the Stratford plant. The company probably will build an additional hangar for its experimental airplane designs.

While it will require approximately one year to accomplish the move from Connecticut, the company will tool up immediately for production of the F6U-1 "Pirate." Vought now has in production at Stratford the F4U-5 Corsair, a new, more powerful version of the famous gull-wing fighter, which will serve the Navy's postwar fleet as its first-line fighter-bomber. The company intends to complete an order for airplanes of this model at its Stratford plant.

Acceleration for Experimental Projects

The company will carry on an accelerated and intensive experimental aircraft program in Texas and is plan-

(Continued on page 46)

Better flying characteristics and improved utility in light aircraft are the goal as Fred Weick launches a notable project.

Personal Aircraft Research Center

Fred E. Weick (seated, left) is welcomed to Texas by Dean Howard Barlow (seated) and Professors E. E. Brush and R. M. Pinkerton, photographed in SOUTHERN FLIGHT's editorial offices as Weick arrived from Maryland, where he resigned as vice president and chief engineer of Engineering and Research Corp. to join Texas A. & M. College.

FOR several years visitors to the campus of the Agricultural and Mechanical College of Texas at College Station probably have wondered why the school needed its own 460-acre airport with 5,000-ft. concrete runways, an ultra modern, well engineered Class IV airport that would do justice to a city of over 100,000 population. Last month the reason came out. Despite shortage of funds, war interference and shortage of critical materials the college has managed to prepare the necessary ground work for an aeronautical research and development center for personal aircraft.

Coincident with the announcement covering the center, Howard W. Barlow, dean of engineering at A. & M., announced the appointment of Fred E. Weick, internationally famous designer and developer of the first two-control airplane, who will direct the new department whose principal activities will be established on Easterwood Airport. Weick will fill the newly-formed post of Distinguished Professor and Research Engineer. His appointment became effective May 1.

In making the appointment, Dean Barlow stated: "It is believed that a concentrated research program on light aircraft can be carried out efficiently in a well-equipped educational and research institution which is divorced from commercial manufacturing. Initial effort is to be directed toward improving flight handling characteristics and utility. Design simplification and ease of manufacture are also to receive attention."

A graduate of the University of Illinois, Fred Weick has been in the industry since 1922, having served as chief engineer of the Hamilton Standard Propeller Company during the pioneering days of that great firm. Later he was to serve as research engineer for the National Advisory Committee for Aeronautics. Among the many "firsts" to his credit is the responsibility for the design and engineering development of the NACA low-drag cowling for radial, air-cooled engines and the design of the first "spin-proof" airplane. He also designed the first airplane with modern tricycle landing gear, the first airplane to fly without a rudder, and the first successful airplane with the two-control system. He is best known in private flying circles for these later developments which were culminated in his Ercoupe design. He resigned as vice president and chief engineer of the Engineering and Research Corporation in Maryland, builders of the Ercoupe, in order to accept the A. & M. appointment.

The college is rushing to completion a 7-ft. x 10-ft. wind tunnel and soon will announce acquisition of engine research and test equipment worth about one million dollars. Appropriations have been made for lighting the airport runways as well as for the construction of a steel hangar approximately 204 x 144 ft. In addition to engine and airplane research, the center also contemplates embarking in a research program in rotary wing aircraft under the direction of Professor E. E. Brush, head of the department of aeronautical engineering. Brush, Professor R. M. Pinkerton and Professor E. M. Flanagan have had considerable experience in aerodynamic research and the use of wind tunnels. An additional specialist may be added to this phase of the work. Professor B. B. Hamner will direct structures research for the center.

For Better Personal Planes

The Texas A. & M. personal plane research and development center will take some of the sting out of the lamentable irony of the present aviation era when we must of necessity spend more and more billions to develop and produce airplanes as lethal instruments of war in order to preserve our way of life, while comparatively little effort, money, time or thought will be devoted to the improvement of the airplane as a better, safer, cleaner, more economical and more useful means of personal transportation.

It will be remembered that personal plane manufacturers last year gave the cold shoulder to a CAA proposal that Federal funds be granted to private enterprise for specific projects designed to accelerate technical improvements in personal aircraft. Perhaps the idea of Federal sponsorship can be revived and funds provided to such establishments as the A. & M. Research Center, with which the personal aircraft manufacturers will cooperate.

At any rate the announcement of the center and the appointment of Fred Weick to direct it looks like an oasis on the desert, a little fountainhead whose waters eventually will trickle into many parched fields where work isn't done for lack of capital and for lack of a volume of business that simply can not support rapid technical advancement.

No one should expect miracles from the undertaking or any rabbit-out-of-the-hat legerdemain from Weick and staff. The ill-fated CAA proposal mentioned five million dollars. A. & M. won't have near that much for many years, unless some unforeseen angel shows up, and angels have practically disappeared from the aviation scene. It's going to be a long row to hoe. But a lot of people are going to help and it will be constructive, interesting and headed in the right direction. ★ ★ ★

Here's first large transport equipped with cross-wind landing gear. Photo shows nose crabbed into wind while wheels maintain track paralleling direction of take-off down runway. —(Goodyear Photo.)

CROSS-WIND GEAR FOR TRANSPORTS

DESIGNED originally as an experimental improvement to increase the utility of lightplanes, the cross-wind landing gear has now been successfully applied to large transport aircraft and initial test flights indicate it might go far towards influencing more satisfactory progress in extending feeder airline services to a large number of small American cities. One of the handicaps to feeder airline expansion has been the shortage of adequate landing facilities at small towns, unable to afford costly runway systems. With practical cross-wind landing gear, only one runway would be required. The resultant economy of airport construction, maintenance and operation would enable hundreds of cities to develop adequate landing facilities in areas not now served by air transport.

Latest progress in the development is Goodyear Aircraft Corporation's recent demonstration in Washington of a DC-3 type transport with swivel wheels. The DC-3 cross-wind wheels are similar in principle to those offered as optional equipment on Cessna and Stinson lightplanes, except the DC-3 castering mechanism is within the hub of a 17.00-16 wheel rather than a 6.00-6 wheel.

After the demonstrations, H. Lloyd Child, CAA Assistant Administrator, commented: "We have definitely established that one-strip landing fields are not only practical for lightplanes in private or commercial use, but we have also proved the practicality of swiveled wheel installations on feeder airline and scheduled transport and cargo aircraft. Both CAA and Goodyear take considerable pride in the cross-wind wheel development."

The DC-3 wheel requires only 15 degrees of caster to provide enough yaw angle for cross-wind landings and take-offs, whereas lightplane wheels need 25 degrees of caster. ★ ★ ★

Still crabbed into wind, Goodyear transport's wheels automatically caster into direction of flight during landing. Castering mechanism is wholly contained within wheels. —(Goodyear Photo.)

More and better airport and resort service for fliers has increased the airplane's utility. Here's a scene at the Westerner Hotel at El Paso, which has its own strip.

—(Photo Associates by Ulric Meisel.)

Roll out your airplane and GO

By Tom Ashley

IF your airplane is a business machine, as so many are, round up your prospects and customers, the office staff or the family and try it out on a pleasure jaunt. It's just as rewarding in pleasure dividends as it is in business, as it carries you to new and different places to go, new things to do.

But maybe you don't own an airplane: Too little time for flying, too small a budget, too little experience. You're an occasional flier, like many of us, with a share in a club ship or a rental credit with a progressive operator. If so, you think a now-and-then hop around local airports is not only something wonderful but about all you need; anyway, all you're after is relaxation in the sky and the challenge of skill and piloting technique. If that's you, there's more to learn than you figure, including the pleasure of combining skill and recreation on cross-country—not to mention some flying fundamentals not found in books or around the traffic pattern but which come sort of naturally over open country.

Whoever you are, whatever you fly, follow a heading which parades beneath your wings a changing panorama of terrain, people and activities and you'll discover *mileage* means more to you and your flying than *hours*. Let your prop sweep new horizons and you'll get more out of your airplane than you ever imagined was in it.

For all airplanes and nearly everybody using them there is a great and valuable utility almost instantly available — an improvement you don't have to wait for but which can add new meaning to and more appreciation of your flying. *Roll out your airplane and go somewhere.*

Time and expense? By airplane busy people with confining schedules can

There are more new places to go and things to do in your plane than ever before. Here are a few.

save valuable time ordinarily wasted in reaching pleasure spots and lengthen their enjoyment while there. You know that, but perhaps you should be told that one day away from the office is all you need to squeeze in that week of fun if you leave Friday at noon and return Monday at noon. Save time lost from work and on the road and your airplane accomplishes economy. That kind of flying can either reduce your pleasure costs or give you more enjoyment for your dollar.

You can do it now but it wasn't always possible to adapt your airplane's performance to your enjoyment of going places and doing things. Recent developments are creating new and needed personal flying opportunities which never existed before. Improvements in airplanes are secondary among those developments; major progress is taking place not in the air but on the ground. The big news is simply that there are more places to go in your airplane and better service is increasingly found along the way.

Better service at existing airports, new airparks designed and operated especially for the airman's enjoyment, more resorts, new strips opening up formerly inaccessible areas—all these have added to your airplane's utility just as surely as rate of climb, cruising speed and useful load. They will determine airplane utilization more than any factor influencing many persons already flying and a greater majority of those soon to fly.

Where will you go? What will you do when you arrive? There is much to choose from. How about something easy—no planning, nothing special; just a change of scenery and activity? We suggest a flight to the nearest big town, not so much because it didn't occur to you but because some changes have been made which you probably don't know about. We'll wager you'll find airport service for visiting planes is a whole lot better than it was the last time you stopped in town. It had to improve because others before you started getting choosy and more progressive operators caught the hint and tidied up their services and facilities. Traffic picked up as fliers began passing up the no-good and mediocre places to favor the few airports where appreciation of their business would be reflected in better service, more courtesy and a fair deal.

After you arrive, the progressive operator will be glad to brief you on what's going on in town—a nice place to stay, a suggested shopping tour, good shows, races, baseball games, steak houses, night clubs and parties. In some towns—and they don't have to be large cities—the operator has a drive-yourself auto rental service or connection. You can have more freedom and feel more at home by renting a car than by depending on cabs. The cost won't be far off, either—in some cases it is actually cheaper. A friend of ours in a Luscombe stopped at Shreveport recently on a flight through

Like to fish? Lucky sports at left are shown fighting and boating a Mexican jack fish at La Pesca, 140 miles below Brownsville and made famous by SOUTHERN FLIGHT. It has a good air strip and guest facilities. Southwestern dude ranches now cater especially to airmen, have their own strips. This one's the Circle R near Bandera, Texas.
—(Photos at left by Squire Haskins; bottom by Circle R. Ranch.)

Louisiana. Instead of catching a cab to town, he and his party rented a new car on the airport from Southern Aviation Corp., drove downtown to a famous seafood place for a choice meal, did some shopping and returned to their airplane to find the car rental had added up to only $2.56.

Where else will you go? Maybe you want to get away from town. How about the sea shore? You can go pretty far in your airplane to places formerly out of reach by auto or train, and do it economically. We got a hankering for a beach last month, for example. It was almost 400 miles to the point we had in mind but in a Bellanca we were there in less than three hours. Although the working day was nearly gone and we had no particular plans, we had plenty of time before darkness and things started happening as soon as we arrived.

The place was Palacios, Texas, on the Gulf of Mexico's Matagorda Bay. R. T. Walker, old-time operator who's also manager of the ex-Army air base now used for a municipal airport, was honest enough to say the fish weren't biting. "How about going sight-seeing?" he suggested. The town is small and we had seen all of it on our base leg, but his instructor, Ben Wesselman, insisted there were sights better than anything any town ever offered. So we loaded up and, with Bill Campbell flying the Bellanca along Ben's pointed finger, we buzzed thirty miles of Matagorda Island. There were deer by the herds — big, fat deer which occasionally jumped and skedaddled but mostly just stood still with curiosity as we gaped from above. We counted 60-odd of the best bucks ever spotted. It looked like a zoo but they were wild game which are hunted every season.

There were other sights along the island—Old Indianola, once Texas' largest city and a thriving port but now in ruins without a living soul near its abandoned streets and squares, giant concrete cisterns and tumbling chimneys; the partly-beached hulk of what appeared to be an enemy submarine; an abandoned Army airport now grazed by cattle and deer and slowly being engulfed by brush and weeds, although a physician purchased it for $53,000 and plans eventually to develop it into a ritzy resort for airmen.

That trip showed us there's always a good place to go even if you have no plans—once you get up and go. However, Palacios Municipal Airport is just going to work on transient trade and the visitor should not expect to find a country club atmosphere there for some time to come. It's just an airport right now. But courtesy and service are there. Walker will gladly stop what he's doing and do what you want to do if it's at all possible — he'll drive you to the bayside Luther Hotel where there are plenty of breezy,

(Continued on page 28)

This is the season for air tours. Photo above shows planes arriving at a luncheon stop during last year's Louisiana Air Tour. Tennessee's great system of lakes is a mecca for flying sportsmen of a dozen states. Scene at left shows George Fulghum and Mary Wilson, their floatplane in background, boarding a sailboat on TVA's Chickamauga near Chattanooga, Tenn.

—(Upper photo by Jimmy Hampson; left by Ross-Pix.)

Plane Talk and Plane People

Lienesch On Flight Training

OUR old friend Carl F. Lienesch, Airport Management Consultant with the CAA's Seventh Region, turns up with some mighty interesting figures and speculations about the future of flight training. Writing from Seattle, Carl says there are enough flight operators in the nation to give flight training to 200,000 students per year. It is apparent, he says, that this large number of operators has been established and is now being maintained by government money. He believes that the present number of trainees is not an indication of the large number of our youth who should be learning to fly. Taking the experts' figures of 400,000 to 500,000 hoped-for airplanes by 1955, and with 40,000,000 to 50,000,000 automobiles, we have a ratio of autos to airplanes of 100 to 1. Out of the 2.3 millions in the age bracket from 15 to 25 years, auto experts state that 1.7 million of them learn to drive each year. If this annual crop of new drivers suffices for 40,000,000 autos and if there will be about the same number of pilots per airplane, the annual crop of pilot trainees will be about 17,000.

Carl says that flight training operations exist to train about twelve times this number of pilots expected to be developed when civil aviation has "matured" with 400,000 planes flying. We can therefore draw a fairly dependable conclusion that there are far too many fixed-based operators selling flight instruction than the economic picture of aviation now needs or will need for a long time to come.

He believes that if the forthcoming reduction in flight training (barring war training) is anything like the 90 per cent predicted, then competition for survival will become intense among the vendors of this training. Since survival of the fittest will be measured by quality goods, fair prices, availability and patronage, Carl believes it will be wise for all operators to check their quality, price and availability. With regard to patronage, the operator must adopt sound selling methods. Selling and patronage result from sound and logical advertising and public relations programs. Since the network of flight training facilities has been built up, which is much larger than the foreseeable future aviation industry will require, the time has come, says Carl, to prepare for the shrinkage. Wise words from one of aviation's rugged and experienced pioneers of the old school.

Another CPT Program?

THE Lienesch comments brought forth some speculative questions from an editor friend of his. This friend wanted to know, if present trends are borne out, are we, as a democratic nation, going to let the trends run their natural course and then fatalistically accept the result on the basis of some kind of providential sanction? Can the United States afford to have only 17,000 assured civilian fliers every year plus a few thousand more who may be able to afford to learn to fly and buy an airplane? If aeronautical skill, as any other skill, cannot be achieved overnight, can we pin any hope of aeronautical progress on a hit-or-miss program of building up this necessary national dynamic?

Moreover, the friend continues, Senator Magnuson pointed out about a year ago that Russia has a definite program of training 700,000 young scientists and technicians in all branches of research and perhaps twice that many in other skills. If that is true, then the U. S. can not afford to throttle, squelch, curtail, restrict, confine, limit and circumscribe potentialities. He hopes that those of you who read Carl's figures "will not accept the 17,000 annual pilot figure as the pitiable result of a great nation groaning like Mt. Everest and producing a molehill."

There is not much evidence that any kind of subsidized training will come along to supplant the GI program, not even in case of war. Some of the favored sixty-five primary contractors who did contract training for the Army Air Forces during the last war do not think flight training ever again will be contracted out by the military services. The advent of jet propulsion, the complexity of new military aircraft and modern modes of warfare render contract primary training unnecessary, a generally prevalent idea which probably reflects the thinking of the higher ups. Even so, few will deny the many benefits, primarily military, of a substantial reserve of competent pilots with educational and flight training background similar to the best produced under the old Civilian Pilot Training Program. That reserve, which helped to save us in the last war, may not be remembered now.

Nevertheless, there is quite a bit of talk about what will happen when the GI flight training program folds, concurrent with an occasional expres-

(Continued on page 26)

92 ton feather

The U.S. Navy's Lockheed Constitution (big brother of the famed Lockheed Constellation) weighs 92 tons — twice as much as the average airliner.

Yet its five-ton, dual tandem landing gear is so finely articulated that the plane can land light as a feather.

So light, in fact, that there's a signal in the cockpit to inform the pilots when the prerotating wheels touch the ground during a landing.

The gear spreads the weight of the Constitution over such a large area that the airplane can operate from any normal CAA Class 4 airport without strengthening or lengthening of runways.

More than 50,000 engineering man-hours went into Lockheed's development of the remarkable gear.

Such pioneering in design and research, in combination with resourceful production techniques, keeps Lockheed well in the forefront of aviation.

Lockheed Aircraft Corporation, builders of the U. S. Navy P2V Patrol Bomber, holder of the world's long-distance non-stop record (11,236 miles); the P-80 Shooting Star, the U. S. Air Force's standard jet fighter; and the Constellation, world's leading transport.

look to lockheed for leadership

Lockheed Constitution

Copyright, 1948, Lockheed Aircraft Corp.

First Cessna 170 in Texas was photographed at the famous Flying L Ranch, 32 miles West of San Antonio.

FIRST IN TEXAS—

Cessna Distributors in Texas now have new Cessna 170's for demonstrations. Enthusiastic reception has greeted their arrival, proclaiming the brilliant Family Car of the Air as the finest all-round 4-place airplane now on the market.

Cessna's low price of $5,475 FAF brings 4-place ownership down to practical levels. Advertised cruising speed of over 120 mph. is readily substantiated the minute you level off. Conventional and efficient design provides safe, simple, effortless flight characteristics. Rugged dependability is built into the metal-constructed Cessna 170. Plenty of roominess and comfort. Maximum operating economy with Continental's 145-hp. engine.

See Your Cessna Distributor-Dealer Today for Your Demonstration Flight in the 4-place Cessna 170.

Cessna 170 cabin roominess is shown below. Useful Load, 1,000 lbs.

The 4-Place CESSNA 170

Your Cessna 170 Demonstration Is Available Now from These Texas Distributors:

DALLAS

Mustang Aviation

J. O. WOMACK
Dallas Airport
(Old Mustang)
Tel. Emerson 6-2878

N. T. WOMACK
New Mustang Airport
(Old Hudson)
Tel. Union 6-4189

LUBBOCK

Vickers Aircraft

JAMES J. VICKERS
Municipal Airport — Tel. 9914

SAN ANTONIO

Tomco Aviation, Inc.

FRED THOMPSON
Municipal Airport
Tel. Travis 2254

Stinson Field
Tel. Lindell 4-1250

SAN BENITO

San Benito Flying Service

KING CRUSE
San Benito Airport — Tel. 652

It's easy to FLY your own Family car of the Air !

2. Take the Whole Family and Go! . . . to the ocean, the mountains, wherever you like! You can do it now! For the new Cessna 170 is a roomy, luxurious, 4-place plane . . . at a price thousands can afford. It cruises at well over 120 m.p.h. — has a safe 500-mile range! The interior is as luxurious and comfortable as a fine automobile!

1. Dare-Devilish? . . . No! Just for youngsters? . . . No! Here's a plane so stable, so dependable, so easy to fly that almost anyone — be he sixteen *or sixty* — can learn easily. In no time at all, flying this Cessna is as simple as driving an automobile . . . *more* relaxing and comfortable, in fact!

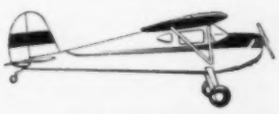
3. It Pays for Itself in your business . . . then multiplies week-end and vacation fun! "Road time" is cut to practically nothing — Productive time increased correspondingly! And you can take important customers and associates with you in the *Family Car of the Air!* Ask your Cessna dealer about it . . . *now!*

Cessna 170

A 145 H. P. Continental Engine. Top speed—over 140 m.p.h. All-metal structure. Full-range wing flaps. Patented Safety Landing Gear! Wide doors. Wide foam-rubber seats on No-Sag Springs! Designed for low-cost maintenance. Operating costs per passenger are only a fraction of rail or airline fare!—See it!

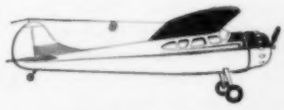
Only Cessna Offers A COMPLETE LINE OF PERSONAL PLANES!

No matter what type of plane you're interested in, see your Cessna dealer! Cessna builds the only complete line of all-metal-structure personal planes and the resulting production savings always mean "More for Your Money!"



CESSNA 120-140

Practical 2-place, cross-country planes at light training plane prices! All-metal structure. Patented Safety Landing Gear. Many comfort and safety "extras." The 140 has a 90 H.P. engine and cruises at nicely over 105 m.p.h. The 120 has an 85 H.P. engine and cruises at over 100 m.p.h. Both have ranges of more than 450 miles.



CESSNA 190-195

These planes are luxurious 4-5 place personal or company airliners . . . with airline type engines, Hamilton Standard Constant Speed Propellers, every comfort and safety feature! The 195 has a 300 H.P. Jacobs Engine and cruises at well over 165 m.p.h. The 190 has a 240 H.P. Continental Engine and cruises at over 160 m.p.h. Both have ranges of more than 700 miles.

MAIL THIS COUPON

Cessna Aircraft Co., Dept. SF, Wichita, Kansas. Please send free literature giving complete description of the Cessna 170 ☐; Cessna 120, 140 ☐; Cessna 190, 195 ☐; Additional material for model builders ☐.

Name_____

Street No._____

City_____

County_____ State_____

PLANE TALK

(Continued from page 22)

sion of hope for a new program akin to the old CPT. One authority on the subject has made a scientific cost estimate of training 30,000 college men annually. It figures approximately $20,000,000 plus 10 per cent for administration. Here's how:

1. 30,000 scholarships annually in approximately 300 colleges and universities for a primary course consisting of 45-52 hours in 85-hp. aircraft plus 5 hours Link training, plus a minimum of 8 hours of night lectures. Prepares for CAA flight test and private certificate. At $435 for each, total annual cost would be $13,050,000

2. 10,000 advanced scholarships in 50 of the above 300 colleges for outstanding students divided 2,000 each for the following courses:

(a) 60 to 65 hours in 150-hp. aircraft plus 5 hours Link for advanced private pilot status. Prerequisite: CAA private certificate. At $870 each, total annual cost would be $1,740,000

(b) 60 to 65 hours in 220-hp. aircraft. Prepares for CAA commercial certificate. Prerequisite: advanced private course in (a) above. At $840 each, total annual cost is $1,680,000

(c) 30 to 40 hours in 220-hp. aircraft. Prepares for CAA Flight Instructor Rating. Prerequisite: CAA commercial certificate. At $420 each, annual cost will run $840,000

(d) 24 to 30 hours in 150-hp. aircraft, plus 10 to 20 hours in Link. Prerequisite: commercial pilot certificate. Preparation for CAA instrument rating. Annual cost $840,000

(e) 24 to 30 hours in twin-engine aircraft, plus 10 hours advanced training in Link. Prerequisite: CAA commercial certificate with instrument rating. Covers advanced cross-country procedures and prepares for CAA multi-engine rating. At $960 per scholarship, cost is $1,920,000

TOTAL $20,070,000

It should be pointed out that the old Civilian Pilot Training Act of 1939 is dead. Consequently new legislation will have to be drafted. Surely the justification now of such action seems to be even more important than when the old CPT Act was approved nearly nine years ago.

Getting Around; Flying Frog Air Meet

ONCE again aerial peregrinations have taken us far and wide since the last appearance of this column a few issues back. Before we give you an accounting, let's look to some functions coming up.

First of all on May 14-15 there will be an Intercollegiate Air Meet to be held at Eagle Mountain National Air Base north of Fort Worth, Texas, sponsored by the Flying Frog Club of Texas Christian University. Mary Helen Rattikin, secretary of the club, writes that as far as her tong is concerned a college without a flying club is behind the times and that the flying field is a bit more important to the country these days than is the football field. So far the acceptances from other college flying clubs read like a roster of the American Association of Colleges and Universities.

Miss Rattikin says you don't have to be a member of any National Intercollegiate Flying Club to attend the Eagle Mountain meet. If you've never enjoyed the privilege of these collegiate flying affairs, better plan on taking this one in. It's real competition by the cream of American youth.

Airport Management Conference

Then in June there's the annual Airport Management Conference at College Station, Texas, on the A. & M. campus. This year's program has been enlarged and broadened so that it will appeal to practically every kind of airman, including every category of aviation business men, as well as those civic leaders, political appointees and elected officials who find themselves interested in or tied to aviation matters. There will be plenty on the docket for the personal pilot, the personal plane owner, and especially for airport managers and fixed-base operators.

Aside from the brilliant array of talks from people who know what they're talking about and the discussion periods following each, three added attractions will be offered. An old-fashioned barbecue on a real Southern cotton plantation (together with a dusting exhibition using conventional and rotary wing aircraft) has been planned for the night of June 8. The following night will be set aside for the annual conference banquet with Major Al Williams, manager of the Gulf Oil Corporation aviation department, pioneer exponent of air power, father of dive bombing, author, newspaper columnist and aerobatic ace, as the principal speaker. A rare treat at anybody's aviation conference and worth flying many miles in order to enjoy and profit from whether you get any barbecue or not!

The third attraction will be your first introduction or hand-shaking acquaintance with A. & M.'s newly established Personal Aircraft Research and Development Center under the direction of Fred E. Weick, inventor of two-control, developer of the Ercoupe, aeronautical engineer without peer in the personal aircraft field. It's the only such center in the world and, like the Al Williams speech, and many other features, it is worth coming many miles for.

Here are the titles to some of the speeches in case the above sales talk hasn't convinced you:

"Tomorrow's Airports — Merchandising vs. Politics," by Pat Moore; "Safety as a Salesman," by Hugh DeHaven; "The Terminal Building as a Community Center," by William G. Fuller; "The Airport as a Good Neighbor," by George Burgess; "The Feeder Line in Operation," by Robert J. Smith; "Economic Aspects of Present Fixed-Base Operations," by James Batchelor; "Retailing Pilot Training Locally," by Al Hudgin; "The Airport Manager's Attitude Toward Tenants," by Dick Martin; "Merchandising Petroleum Products on Airports," by R. C. Oertel; "Insurance and Its Relation to the Operator's Costs," by Tom Rucker; "Around the Country with the Private Owner," by E. G. "Slim" Kidwell; "The Theory of Rates and Charges," by W. T. "Bill" Brown; "Who Runs the Airport and Why?" by Douglas Outlaw Langstaff; "Airport Leases and Agreements," by Allen H. Barr. Special consultation sessions will be held for fixed-base operators, for airport managers and city officials on maintenance and operations, on accounting and on merchandising.

In our opinion about three-fourths of the problems of civil aviation could be alleviated and considerably reduced if there could be a broader interchange of ideas. Trouble is, too many people in aviation are not alert or energetic enough to try to better themselves and the operations for which they are responsible. Airport managers and airport service operators who want to improve their own lot and the flying game in general might well pack up their city fathers and bring them to the A. & M. Conference June 8, 9 and 10. It's a shirt-sleeve, working conference. You sleep in college dormitories. You eat in the college mess hall. The food is excellent, the climate warm, the hospitality of the campus beyond comparison. It's not too early to send in your reservations to Howard W. Barlow, Texas A. & M. College, College Station, Texas. Also write him for an advance copy of the program.

(Continued on page 34)

THE LOWEST-PRICED 2-Place and 4-Place Airplanes Flying

W. T Piper has scored again with the new Vagabond and Family Cruiser, most economical airplanes to own and fly ever offered the public. Rock-bottom prices. . . . Reliable Cub-famous safety. . . . Utility for every user. . . . Lycoming power.

4-PLACE FAMILY CRUISER: Take the entire family in sound-proofed comfort. Cruises 110 mph. (75% power), tops 123 mph., 35-gal. fuel tanks, 48-mph. landing speed, 575-fpm. climb. Flaps. Lycoming O-235-C1 108-hp. engine (115-hp. for T. O.). Electric starter, 12-volt battery, hydraulic brakes, muffler, cabin heat, navigation lights, 2-tone exterior and interior colors with comfortable cabin upholstery. **$3,825**

2-PLACE SIDE-BY-SIDE VAGABOND: Roomiest, fastest, most comfortable 2-place in its price category. Easy instalment financing with only about one-third down usually available to individuals and partnerships. Familiar Cub reliability and safety. Cruises 90 mph. (75% power), tops 102. Uses about 3.5 gals. per hr., 12-gal. gas capacity, 45-mph. landing speed, 510-fpm. climb. Lycoming 65-hp. engine, stainless steel muffler. Only **$1,990**

See the Piper Distributors listed here today for these most-for-your-money, 1948 models.

PIPER DISTRIBUTORS

LOUISIANA

LOUISIANA AIRCRAFT, INC.
Bill Eberhart
East Baton Rouge Airport — Tel. 3-5512 — Baton Rouge, La.

NEW MEXICO

B. F. HINES FLYING SERVICE
Frank Hines
Lea County-Hobbs Municipal Airport
Tel. 176J; 214W — Box 535 — Hobbs, N. M.

OKLAHOMA

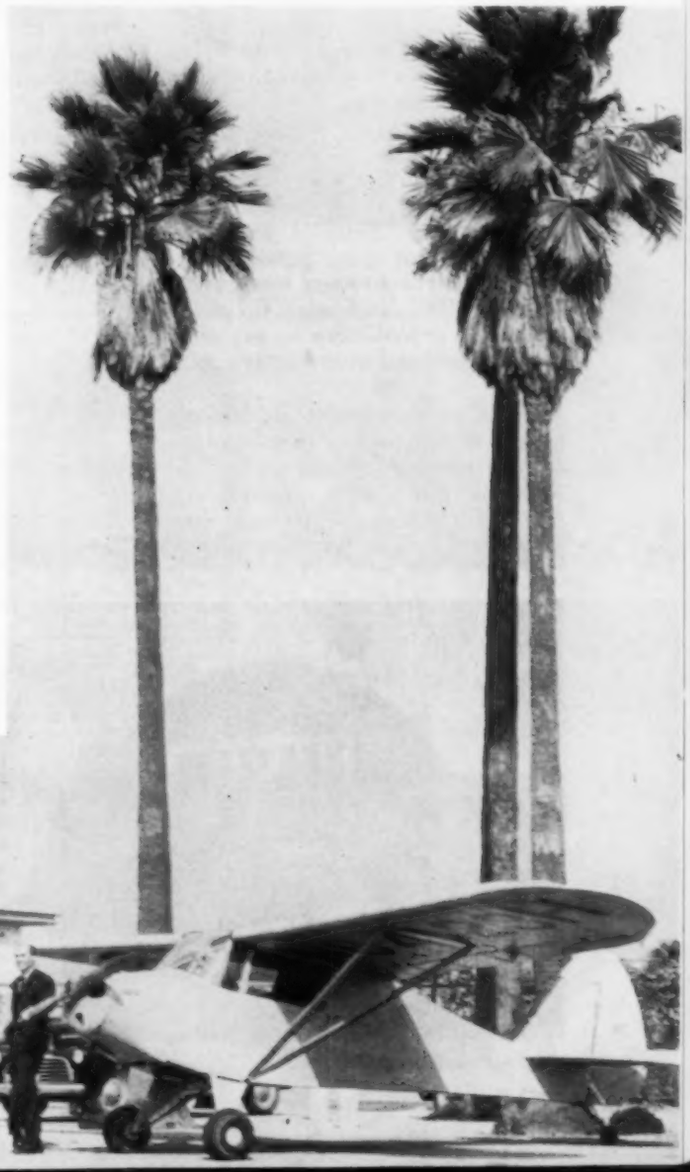
SMYER AIRCRAFT SALES & SERVICE
Tom Smyer
Municipal Airport — Tel. 475 — Box 988 — Ponca City, Okla.

TEXAS

AIRCRAFT SALES, INC.
A. C. Elsholtz
Meacham Field — Tel. 6-5491 — Fort Worth, Texas

TEXAS

WEST-TEX AIRCRAFT
Roy Neal
Municipal Airport — Tel. 2-2761 — Lubbock, Texas



That's the most-for-your-money 4-place Family Cruiser on the left and the sensational $1,990 2-place Side-by-Side Vagabond on the right below. —Pacific Air Industries Photo.

ROLL OUT YOUR PLANE

(Continued from page 21)

comfortable and clean $3 rooms or he'll find a boat you can rent for fishing or he'll hop you over to a beach for surf casting. You might also want to see all those deer but our advice here is to leave your airplane on the airport and hire Ben Wesselman to do the buzzing in his J3 while you gape from the back seat—you'll see more and live longer.

There are other ways of having wonderful times without worrying about the plans. SOUTHERN FLIGHT publishes in nearly every issue an article describing a pleasure flight to some interesting point. Letters to the Editors indicate a growing volume of pilots are following those trips—to offer ideas on where to go and what to do is the purpose behind such articles. Squire Haskins, pilot-photographer who has prepared articles for us, is operating a free sportsman pilot's guide service and will gladly plan your air touring for you, complete with reservations. He recommends only places-to-go which he has personally visited and inspected. Write to him in care of the Editors if you are interested.

But here's a suggestion to flying fishermen: Don't haul off and go without first telephoning ahead to learn whether the fish are biting. If they aren't, stay home. Wait until you *know* they're biting. In your airplane you can usually reach the water before they stop. Years of experience have proved that to our personal satisfaction. We can *go fewer times to the best places and catch more fish at less expense by airplane than by any other means.* That's real utility in flying for fun.

Flying pleasure-seekers are learning something new, at least to some of us, at air resorts. Many operate on "the American plan" with rates running from $8 per day up. If such rates sound high, remember they include everything — transportation, meals, lodging, swimming, horse-back riding and the whole course of fun such resorts usually offer. An example was provided during our recent visit to the famous Flying L Ranch near San Antonio. This dude ranch airpark, considered by many to be the finest facility for fun-seeking fliers throughout America, has a top rate of $15 per day per person for guest cottages (also $8 dormitory and $10 ranch house). That sounds pretty expensive, especially when compared to a $12.50 suite in a big-city hotel. But here's how the Flying L's "American plan" compares with a hotel's "European plan" for a couple out in an airplane to have a big time:

HOTEL		FLYING L RANCH	
Tiedown	$ 1.00	No taxi; land on resort	
Taxi	4.00	All meals included	
Tips	1.00	Swimming Pool	Free
Dinner	6.00	Horseback Riding	Free
Taxi	1.50	Fishing	Free
Night Club	10.00	Tiedown	$ 1.00
Breakfast	3.00	Rodeo	2.00
Sightseeing	3.00	Square Dance	2.00
Lunch	3.00	Set Up	1.00
Lodging	12.50	Cottage Suite	30.00
Total	$45.00	Total	$36.00
Per Person	$22.50	Per Person	$18.00

You can have lots of fun on less. Breakfast tours, for example, offer excellent Sunday morning entertainment for a party of airplanes and fliers. In case you haven't participated in one, it consists of several airplanes (usually ten or more) flying 60 to 150 miles at the inviation of an airport operator, a municipal airport or local civic club. The host serves free breakfast and coffee and there are general introductions and renewals of acquaintances and maybe a few special entertainment events. These functions not only provide a good time for everybody but (a) publicize the host airport, (b) give airplane owners and users an excuse for flying when they might otherwise leave the ship in the hangar and (c) offer opportunities to brush up on navigation.

Did we say some breakfast flights attract up to 2,000 airplanes? It's a good possibility that many took part early in May during the West Coast's popular "7th Annual L.A. Holiday on Wings." Last year this event was known as the annual "breakfast flight to Palm Springs" and more than 1,100 private airplanes took part. It is sponsored every year by the Los Angeles Junior Chamber of Commerce and many leading Hollywood film folk participate with their airplanes.

Rapidly regaining widespread popularity they held before the war, state air tours are becoming more numerous. July 2-9 is officially "National Air Tour Week," sponsored by United Pilots and Mechanics Association, and many states will conduct air tours during that period. But there are some notable tours coming up before then, including the 3rd Annual Mississippi Air Tour, June 10-13, and the Pennsylvania Air Cruise to the famous Williamsport resort area, June 11-13.

These and many more opportunities await the private plane owner, who will do more pleasure flying this Summer and Fall than ever before. There are more airplanes than ever and better ones. And the service at many airports and resorts is getting better all the time. Roll out your airplane and join in the pleasure. ★ ★ ★

Airmen's Calendar

May 17—Third Annual Mississippi Aviation Clinic; also meeting of Mississippi Aeronautics Commission, Dealers and Operators, Edwards Hotel, Jackson.

June 5-6—2nd Annual All Woman Air Show, Miami.

June 8-10 — Airport Management Conference, College Station, Texas.

June 10—Third Mississippi Goodwill Air Tour, Hawkins Field, Jackson.

June 11-13—Pennsylvania Spring Air Cruise to Williamsport Resort Area.

June 27-30 — National Aeronautic Association Convention, Hotel Radisson, Minneapolis.

Plane Owners . . **This Spring get up and go places. Your airplane is transportation at its best when you cruise straightaway to far horizons. ¶ For those who are going places, there's no finer air resort in America than the famous Flying L Ranch. Everything as you want it . . . hard-surfaced runways . . . service to earn your satisfaction and confidence . . . distinctive, cozy-comfort guest suites just across the turf . . . swimming pool . . . horseback riding . . . fishing in stocked lakes . . . hunting . . . appetizing food around the clock . . . night-time fun-fare. ¶ Make your flight plans now—this Spring visit the Flying L Ranch, 32 miles W. of San Antonio at Bandera.**

Col. and Mrs. Jack Lapham, Owners.

Shreveport's Complete 1-STOP SERVICE

Auto-For-Rent: In Shreveport for business or pleasure? You'll like our rental car service at less-than-taxi rates. Customers may land, rent a car at the airport and be downtown in less than 15 minutes (only 2½ miles to business district). Like to hunt or fish? We are only 20 minutes from Cross Lake, 40 minutes from Lake Bisteneau or Caddo Lake, 50 minutes from Black Lake—all famous throughout the South. Step out of your plane into new car without delay, fuss or bother. Return it to our hangar and your plane will be ready to go, fully serviced.

Maintenance and Parts Service: CAA-approved Repair Station No. 1374 for all aircraft, engine and propeller service, we are approved by Pratt & Whitney and Continental Motors and offer complete overhaul on all types of engines with factory guarantees. Our $30,000 equipment includes Magnaflux and Zyglo. A $50,000 stock of parts is maintained for wholesale and retail and we ship parts same day order received. All paint work is guaranteed, with flat rates on request. Our approved propeller shop, only one in this area. We specialize in Beechcraft, Navion and Stinson service. Distributors for Lear, General Electric, Firestone, Berryloid and many other famous products.

Charter and Training: Licensed and fully-insured 24-hour charter service. Approved for Commercial, Instructor, Instrument and Twin-Engine courses, we offer complete GI Flight Training, with a staff of courteous, efficient pilots. Our Flight School operates branches in Springhill and Haynesville, La.

SOUTHERN AVIATION CORPORATION

AUTO-FOR-RENT, INC.

GORDON R. LECKIE, Gen. Mgr.

Box 1491, Tel. 2-3264 — Municipal Airport, Shreveport, La.

At the Intersection of Skyways 1 and 77

CALL TOWER FOR OUR CAR: One of our customers, Harold Rowley of Big Chief Drilling Co., is shown being greeted by General Manager Gordon R. Leckie. He called the Shreveport Tower to request a car while approaching for a landing. We had an Auto-For-Rent sedan waiting.

LARGEST ARK-LA-TEX PARTS AND MAINTENANCE CENTER: Our CAA-approved shop specializes in Beechcraft, Navion and Stinson service. Department heads are shown below (left to right): Service Manager and Designated Inspector Frank Ross, 15 yrs. in aviation; Engine Overhaul Superintendent C. T. Dally, 20 yrs. in aircraft engines, 10 yrs. as engine overhaul superintendent for Capitol Airlines; Chief Mechanic Earl Forth, Beechcraft expert, with 20 yrs. including supervisory positions with Delta Air Lines and Florida Airways; Parts Manager Delton Roach, 10 yrs. in aviation parts; Radio Technician T. C. Linxwiler, 10 yrs. in aircraft radio.

PRIVATE PLANE TRAVEL

(Continued from page 12)

each customer. In some cases this could be very advantageous dollarwise.

There are the four basic ways by which use of the new standard of air travel can work for business men, save time, and show a profit. They are used that way right now by several thousand typical business concerns, and although the examples are hypothetical, the advantages gained by the thousands now using them more than substantiate the comparisons made.

The term "business organization" is loosely used here—it can mean a small contractor, a large manufacturer of restaurant and hotel equipment, a farmer or rancher, an oil drilling outfit, a food processor or wholesaler, a jewelry story, almost anything. There are many, many thousands of such organizations who have not yet learned the tremendous possibilities of the airplane.

Travel Costs Compared

In Table 3 the actual costs and travel times for a typical New York-to-Washington trip are shown for the various 4-place planes, as well as for other vehicles. Two persons were assumed as being on the trip, a conservative estimate of the average number of persons traveling via private air transportation on business (Bonanza national average is 2.8).

Here is another forceful demonstration of the fact that our new lines of 4-place aircraft are very much in the American economic swim from the very practical standpoint of travel time and cost. They can and should be sold on that basis. We can answer that age-old question asked by the American consumer about any commodity, "Will it save me time and money?" with a definite "yes." Four of the eight planes save money over the automobile and the other four are very close to the same cost. All are less expensive than rail or airline. Every private plane shows a remarkable time saving over the automobile as well as rail, and at least three equal the airline time when baggage and ticketing time is considered.

Table 4 presents the same type of comparative information for a 724-mile trip from New York to Chicago. Again these 4-place planes show a remarkable standard of efficiency from the time and cost standpoint.

To illustrate the difference in direct out-of-pocket costs, Table 5 shows the same comparison for a typical weekend pleasure trip from New York to Lake Placid. Here is a case where many individuals tend to count only the dollar going out of the pocket—if they already have the vehicle and are using it for business.

It might be well to point out here that in these three tables the private planes are purposely placed at a considerable disadvantage, since air and rail service and roads are exceptionally good between the points in question. Most pairs of points in the United States would not show such good common carrier schedules.

Next month: A continuation of the comparison of possible utility and other aspects of the various airplanes; and a discussion of their rental possibilities, a potential market as yet unexploited. ★ ★ ★

TABLE 5

Comparison of Travel Time and "Out of Pocket" Costs 500-Mile Weekend Pleasure Trip

PRIVATE PLANE, 1948 FOUR-PLACE (In order of economy)	ELAPSED TRAVEL TIME Hours	Mins.	DIRECT TRAVEL COST	PLEASURE TIME Days	Nights
1. Beechcraft Bonanza	3	08	$ 9.39	2	3
2. Bellanca Cruisair	3	32	10.98	2	3
3. Piper Family Cruiser	5	08	11.54	2	3
4. Cessna 170	4	27	12.64	2	3
5. Ryan Navion	3	38	13.07	2	3
6. Luscombe Silvaire Sedan	4	16	13.28	2	3
7. Aeronca Sedan	5	01	14.31	2	3
8. Stinson Voyager	4	16	15.20	2	3
AUTOMOBILE	18	45	10.35	1½	1
BEST RAIL	21	35	148.64‡ 74.32†	2	1
SCHEDULED AIRLINE	4	45	155.96‡ 77.98†	*1½	1

‡Two people. †Four people.
*Due to incompatibility of available schedules and time.
NOTES: (1) Distances are for a New York-Lake Placid round trip; used for example purposes only. (2) "Out of pocket" costs refer to gasoline and oil costs only for private plane and automobile; fare, berth and transportation tax only for rail and scheduled airline. For comparison of travel time and total costs see Tables 3 and 4. (3) "Weekend" refers to leaving home Friday afternoon after business hours and returning by 9:00 A. M. Monday.

HISTORY BY THE CALENDAR

(Continued from page 13)

Fleet and enjoy flying as it was meant to be enjoyed." Artist, pilot, model maker, writer and historian, Charles H. Hubbell is one of aviation's outstanding personalities.—T. A. ★ ★ ★

Charles H. Hubbell at Work

JUST AMONG OURSELVES

(Continued from page 6)

tion engineering and research have been concerned.

Perhaps never before in history has any one geographical area enjoyed a richer opportunity to develop with a new industry than the Southwest has now with aviation. The basis for all progress in aviation is engineering and research. Now that they are coming in good measure, particularly in both the military and civilian fields of aeronautical development, all of the elements of a brilliant future for aviation in the great Southwestern area are in being, not just hopes.

We must not overlook the fact that a nucleus is being formed which will attract other engineering and research elements, including engineers themselves, who heretofore did not feel the manufacturing colony in the Southwest offered enough opportunities and who preferred advantages elsewhere. Likewise the educational implications are not to be underestimated, what with the availability of scientific tools, facilities and research equipment so necessary in the course of study of aeronautical engineering.

Chance Vought and the A. & M. Research Center certainly will add to the prestige of Texas and the Southwest. But the principal asset being acquired, which is apt to be overlooked when payrolls are mentioned, is an especially large and distinguished group of engineers. These men and the tools they must work with are the truly great acquisitions of wealth from which will spring all the other many-faceted benefits of Southwestern industrial growth and progress. ★ ★ ★

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There's a lot of air traffic around Lufkin, thanks to the city's growing lumber, paper and heavy machinery industries. And one of the busiest places in this busy community is A. O. McQueen's Lufkin Flying Service on the Southwest edge of town.

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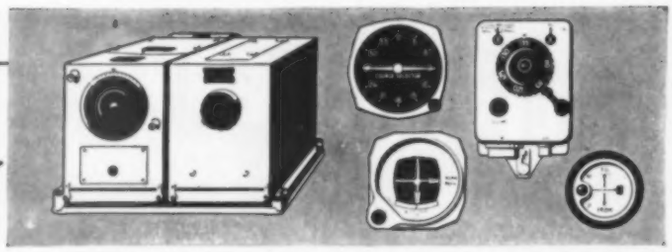

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NEWS IN BRIEF

Rentzel Heads CAA

DELOS W. RENTZEL, president of Aeronautical Radio, Inc., Texan and only 38 years old, is expected to assume duties as CAA Administrator during May following his nomination by President Truman. A private pilot since 1938, Rentzel was communications director for American Airlines when he joined airline-sponsored Aeronautical Radio in 1943, and during the war he served additionally as technical radio consultant to both Army and Navy.

P. & W. Clinic for Owners

A MAINTENANCE AND OPERATIONS CLINIC for the benefit of airplane owners and operators will be conducted June 4-5 at Southwest Airmotive in Dallas by Pratt & Whitney division of UAC. P. & W. representatives conducting the clinic will include Morris Triggs, L. B. Clark, A. Lewis MacClain, R. Morrison, O. Finley, Clyde Rees and F. A. Oberson.

Big Insurance Deal

T. M. RUCKER of Cottingham, Rucker and Barham agency, Dallas, has negotiated insurance covering over $10,000,000 worth of facilities leased by the Navy to Temco at Dallas, largest risk from the standpoint of values involved ever made in Dallas and one of the five largest insurance deals ever completed in Texas. In the past, most large Texas industrial risks have been managed by Eastern brokers. Cottingham, Rucker and Barham Agency was established in Dallas in 1942 to specialize in industrial insurance with a special department for aviation coverage. In addition to Texas risks the agency is servicing a large number of clients in Latin America, Canada and Africa.

Langstaff Heads Airport Executives

DOUGLAS OUTLAW LANGSTAFF, executive director, Moisant International Airport, New Orleans, was elected president of the American Association of Airport Executives at its 20th annual convention in Chicago last month. Other officers are Don W. Martin, Wilmington, Del., first vice president; B. M. Doolin, San Francisco, second vice president; G. Patrick Moore, Chicago, third vice president, and Melvin H. Nuss, Reading, Pa., secretary-treasurer.

New CAB Chairman

JOSEPH J. O'CONNELL, JR., member of a Washington law firm, and HAROLD A. JONES, senior partner in a Los Angeles law firm, have been sworn in as members of the Civil Aeronautics Board, with O'Connell as chairman, succeeding Dean James M. Landis. O'Connell has served in numerous government posts during recent years and Jones, a Marine Corps pilot during World War I, served as a major in the Marines during the last war. Landis has been elected a Director of Colonial Airlines, following his CAB resignation.

RUSSELL B. ADAMS, CAB Economic Bureau director, was nominated by President Truman to the Board as a successor to Harllee Branch and Senate confirmation was expected immediately. Adams is a CAB veteran, having been associated with the Board's staff since 1939. He was a U. S. technical advisor to the International Civil Aviation Conference at Chicago in 1944, has been Economic Division chairman of the Air Coordinating Committee since October, 1946, and was assistant director of the CAB Economic Bureau from May, 1943, until his appointment as director in 1945.

FLORIDA OPERATORS of licensed airports have until July 1 to comply with state airport requirements. . . . Alabama Department of Aeronautics has let a contract for 154 air markers costing $9,979.25. Unit cost is $64.80. Tennessee's $3,000 air marking program cost about the same per unit, but the state furnished the balance. New York is preparing to contract for markers.

TWENTY-SIX COLLEGES in Missouri, Kansas, Colorado, Nebraska, Iowa, Wyoming, and South Dakota will participate in summer work shop aviation programs. In Missouri six state colleges have scheduled summer workshops. . . . W. A. (Bill) May of Jackson has been appointed to the Mississippi Aeronautics Commission of the central district and will serve as secretary. . . . The Third Annual Mississippi Goodwill Air Tour will start from Hawkins Field in Jackson on June 10. . . . 75 airplanes attended the opening ceremonies and air show at the city-built Abbeville(Louisiana) Airport on April 18th. . . . Louisiana Flying Farmers will hold an organizational meeting June 23 at St. Landry Parish Airport, Opelousas. . . . A slight profit on 1947 operations at the Alexandria (Louisiana) Municipal Airport has been reported by manager, W. M. Thomas, Jr.

DIRECTED BY STEADHAM ACKER, an air show and exhibition was staged last month at Oklahoma City, dedicating Skyways 17, 30, and 77 and the Civil Aeronautics Administration's standardizing center. . . . Over 30,000 persons witnessed the recent Third Annual Southeastern Air Show at Jacksonville, Florida, and Chairman E. V. Lopez reported the show came out in the black. Harold Ashley was director and Don Strummel did the announcing. Events included aerobatics by Champion Woddy Edmondson, Bevo Howard and Betty Skelton; Wiley Barham and Carl Dunn transferring from a speeding car to a Cub; Tommy Boyd in a delayed chute bat wing jump; Navy Blue Angels; Army P-80's and Reserve fliers.

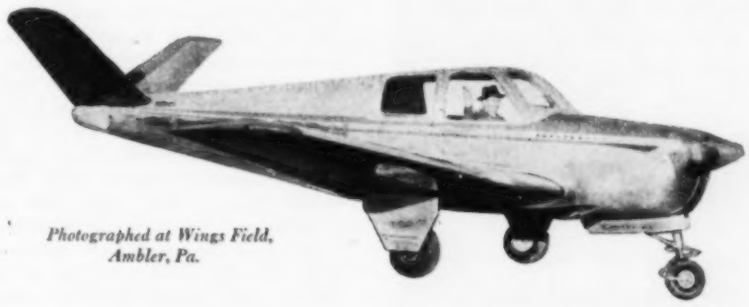
SELECTION OF AVIATION'S "MAN OF DISTINCTION," a trans-continental race and closed-course racing will feature the all-woman air show of the world in Miami, June 1-6, sponsored by the Florida chapter of the Ninety-Nines. The $1,500 trans-continental race for women pilots will start from Los Angeles on June 1, and entry blanks may be obtained from Vivian Boyer Ropes, 456 N. E. 29th Street, Miami. . . . Western distributors of the R. M. Hollingshead Corp. were recently flown to and from an operations clinic conducted at the company's headquarters in Camden, New Jersey. Picked up and returned in the Hollingshead's DC-3 were representatives of the following distributors: Air Accessories, Fort Worth; Air Associates, Chicago, Kansas City, Los Angeles, and Dallas; S. A. Long, Wichita; Supply Division, St. Louis, Memphis, and Oklahoma City.

A. B. MCMULLEN, war-time AAF base commander at many installations, Chief of the CAA Airports Branch in 1938-40, and Florida Director of Aviation in 1933-38, has accepted the post of executive secretary of the National Association of State Aviation Officials. . . . Temco has named R. R. Millsap of Fort Worth as western United States sales representative, and W. A. Stone of Crystal River, Florida, as eastern United States representative for sales of the Swift 125. . . . Aeronautical Electronics, Municipal Airport, Raleigh, N. C., has been named distributors for Narco Aviation Radio equipment. . . . Piedmont Aviation, Inc., Winston-Salem, N. C., has contracted to provide aircraft equipped with special DDT spraying apparatus to the French Indo-China government for disease control. . . . A fully-approved overhaul station at Central Airport, Camden, N. J., has been established by Spartan Aircraft Company, Tulsa, and is directed by Anthony J. Ming.

MAKING FLYING SAFER

GEORGE T. PEW Equips His Beech Bonanza With IRVIN "Chair Chutes"

Executives like George T. Pew of the Sun Oil Company know that modern safety devices greatly increase flying safety. They know that it is poor policy to take chances when reasonable means are available for reducing or eliminating a risk. That's why George T. Pew and so many other business and professional men are installing IRVIN "Chair Chutes" in their personal and company owned planes. They want *every* possible protection.



Photographed at Wings Field, Ambler, Pa.

George T. Pew of the Sun Oil Company in his Beech Bonanza. IRVIN "Chair Chute" can be seen fitted into the back of the unoccupied seat. It is upholstered to match the rest of the chair... is not worn ordinarily, but is instantly available in an emergency. Circular describing the installation and use of this Air Chute* is available on request.

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AIRviews

"Very definitely, it is not an exaggeration to state that our company believes that air freight can revolutionize merchandising."

This statement is taken from the testimony of the General Traffic Manager of a large mail-order firm given before the Civil Aeronautics Board.

It comes as the result of proved success in using air freight to save costs on interest-in-transit, inventory-in-transit, swifter turnover of stocks, and the value of being first in a community with newest products and styles.

Here at Douglas we also believe in the growing future of air freight. And we are working with the air carriers and the shippers to lower air freight costs and to step up efficiency of operations.

Right now we are working on a freight version of the huge Douglas DC-6. This giant plane will, for example, carry up to 30,000 lbs. of payload. It will cut to 8 hours the flying time between New York and Los Angeles. New methods of handling and stowing cargo aboard the DC-6 also will be tested with individual air carriers.

Until the DC-6 enters service, freight versions of the Douglas DC-4 and DC-3 continue to carry the bulk of all air freight throughout the world.

Donald W. Douglas

PRESIDENT
DOUGLAS AIRCRAFT COMPANY, INC.
SANTA MONICA, CALIFORNIA

PLANE TALK

(Continued from page 26)

Last Month's Log

FROM Kansas City to the Gulf of Mexico the advent of spring weather has meant an upsurge in business and produced more optimism than we've seen since 1946. During trips aggregating more than 2,500 miles throughout the Southwest, most encouraging signs popped up in reports from dealers of sales of airplanes to people who are really going to fly the sox off 'em, and in operators' testimony that cross-country flying is picking up to such an extent that transient business is becoming one of their major sources of revenue.

This publication has proved that private plane owners are hungry for places to go in their airplanes. We proved it through feature articles describing interesting and enjoyable spots where the owner and his family or party will be taken care of properly. You regular readers will remember Squire Haskins' yarns on his Mexican trips. Squire has quit his regular newspaper job and is spending full time booking airplane owners who want to fly their families or friends to the air resorts he has personally visited in preparing his articles.

Reader reaction to our feature article series on where to go has been amazingly heavy. It should remind all of us that about the most important job we have is to keep the present crop of airplane owners using their equipment. Show them where to go and they'll stop putting their planes on the used market six months after buying them new.

Louisiana Operators

ONE of the most enjoyable trips of the month was a Navion flight to Baton Rouge with Bill Eberhart, Louisiana Navion distributor, who asked us to attend the organizational meeting of the Louisiana Aviation Trades Association. The operators plan to affiliate with the National Aviation Trades Association.

LATA will permit Louisiana private fliers, commercial aviation companies outside the field of fixed-base operations and aviation enthusiasts to join the outfit on an associate, non-voting membership basis. This plan was adopted because there is no other state aviation group and the operators believe their program for the development of aviation in Louisiana will need the cooperation of everyone interested in the same goals.

George Houston, Zigler Flying Service, Jennings, Louisiana, (author of an article in the March issue of SOUTHERN FLIGHT entitled "Selling Aviation Utility") was elected president of LATA. Other officers include Gordon Leckie of Shreveport and W. A. Prewitt, Jr., of New Orleans, vice-presidents; Ernest B. Brown, Bogalusa, secretary and treasurer. The airport committee chairman is S. L. Stuckey of Ruston; sales and service, Leckie of Shreveport; instruction and training, H. G. Prophit, Jr., of Monroe; specialized aviation, Bill Rose of Lake Charles; and non-scheduled air carriers committee, E. A. LaSalle, New Iberia.

Brig. General T. B. Herndon was lauded for his work as Louisiana director of aeronautics. The group presented him with an honorary membership in the organization. Herndon outlined a suggested program of state aviation development which the group endorsed unanimously.

Speaking of finding places to go in your airplane, we were sitting around Eberhart's hangar on East Baton Rouge Airport on the morning following the meeting when someone suggested we fly to Patterson, down on Bayou Teche just west of New Orleans, for a platter of crawfish bisque. Never having partaken of that delicacy we voted for the trip. In a couple of minutes we had three airplanes full of "takers," including Pike Burden, Baton Rouge printer, private owner and the best damned amateur magician in the state. Pike's been flying for years, has a field of his own just south of E. Baton Rouge Airport. Bill Berry, CAA Fourth Region private flying specialist, decided he could probably develop an appetite by the time we arrived at Patterson's Harry P. Williams Airport—a monument to that benefactor of aviation, whose charming widow, the former Marguerite Clark of silent movie fame, donated it to the state of Louisiana.

Hospitable Red Lancon, airport manager and weather-beaten aviation landmark around Patterson, met us and provided transportation to Foote's restaurant a few miles east of town. There are only two places in the world where you can get crawfish bisque—Southern France and South Louisiana. We will bet all we have that never was there any better bisque in all of France. Nor was there anything like the crab "chop" Foote's culinary masters prepared for us—pure crab meat pressed into the size of a top quality K.C. sirloin steak without binder, glue or paste of any kind—just pure flaky crab meat in the form of a chop, fried in deep fat.

We expressed our appreciation to Mr. Foote and told him there were plenty of airplane owners who probably would fly several hours just to eat that kind of food on a Saturday or Sunday — scat down in the morning and scat back that afternoon. He said please don't publicize the place, as he didn't want a lot of trade. "When you get too much customers," the venerable Frenchman declared, "the food she go to hell!"

We thought that wasn't the only business wherein his theory might apply!

Less than two hours and thirty minutes after that delightful noonday

repast at Monsieur Foote's on South Louisiana's Bayou Teche, we were back on our home airport in Dallas. (P.S.—Fly down and eat there, but please don't tell M. Foote we sent you).

Grass Root Meeting

FORT Worth and Dallas, now engaged in a bitter debate on the subject of developing Midway Airport into a major North Texas air terminal field, should take a couple of pages out of the aviation book of Port Arthur and Beaumont, Texas, who are cooperating with each other in the aviation development of the highly industrialized Sabine area along the lower Texas-Louisiana border. We attended their one-day Sabine area aviation conference on April 16 on the campus of the air-wise Lamar Junior College.

Although the attendance was small we received the impression it consisted of people who get the job done. For example, in addition to fixed-base operators of the area, Jefferson County Airport Manager Wayne Parks and CAA officials, the audience included Beaumont Chamber of Commerce Manager Clarence DeBusk, Port Arthur Chamber of Commerce Manager R. B. Blanton, County Judge W. W. (Pat) Kent, four county commissioners, Superintendent of Schools R. L. Williams, President of Lamar College John Gray, two bankers, two large-acreage farmers, two industrialists of the Sabine area and a newspaperman. It seems to us that if we are going to guarantee home town or area aviation progress we must have considerably more than the regular run of aviation people in order to get the job done. What more important categories of community life can be found than your local politicians, your bankers, newspapers, farmers, educators and industrialists? Maybe Beaumont and Port Arthur have found the solution to the dilemma of too many aviation meetings of aviation people and too little accomplished. Downtown "hurrah clubs" don't work. Frankly, after attending the small, compact and warmly-personalized Sabine meeting, we'll cast our vote for that kind of affair for effective community aviation planning. For once in a long while we came away from an aviation conference refreshed rather than with the well-known "RA," hopeless feeling of "what the hell did we accomplish here?"

Short Snorts

WHILE in Kansas City for the ATA Maintenance Conference, a short ride in the Aviation Maintenance Corporation's Douglas DC-3 equipped with airborne visual radar (AMC-Allison Radar) convinced us that this development has been simplified and perfected to the point of practical application as a conventional cockpit instrument not only for anti-collision protection but also as a landmark spotter in bad weather. Veteran commercial pilot Verne Dorrell made the demonstration and told us the instrument has been under exhaustive flight tests by Southwest Airways, newly certificated California air carrier. Southwesterners will remember the president of Aviation Maintenance Corporation—Reagan C. Stunkel, recently of Lockheed, who cut his teeth busting airplane nuts in Texas in the late twenties and early thirties. If you're interested in airborne radar, write to his company at Van Nuys, California. . . . On April 18 Colonial Airlines completed its eighteenth year without accident involving fatality to passenger or crew member, certainly justifying Sigmund Janas's old slogan: "Safety is No Accident." . . . Claude Ryan dropped in for a visit and some Mexican heartburn food, allowing as how aluminum sheet is getting scarce and that the people who bought up the defunct Globe Aircraft equipment at auction the other day in Fort Worth were speculators who paid mighty fancy prices for all the stuff, including machine tools. . . . Cessna led in all personal airplane deliveries for the first quarter of 1948. . . . The Daniel Guggenheim Foundation has opened the Robert H. Goddard Rocket Exhibit at the American Museum of Natural History. Working from 1912 until his death three years ago, when he was directing Navy rocket investigations, Dr. Goddard carried on his research for years at his own expense.—G.E.H.

CESSNA DEALER MEETING FOR EAST TEXAS was conducted last month by Mustang Aviation of Dallas, distributor. Dutch Dutton of the factory demonstrated a Cessna 170 for the dealers. N. T. and J. O. Womack were hosts to the dealers, shown above in session. —(SOUTHERN FLIGHT Photo.)

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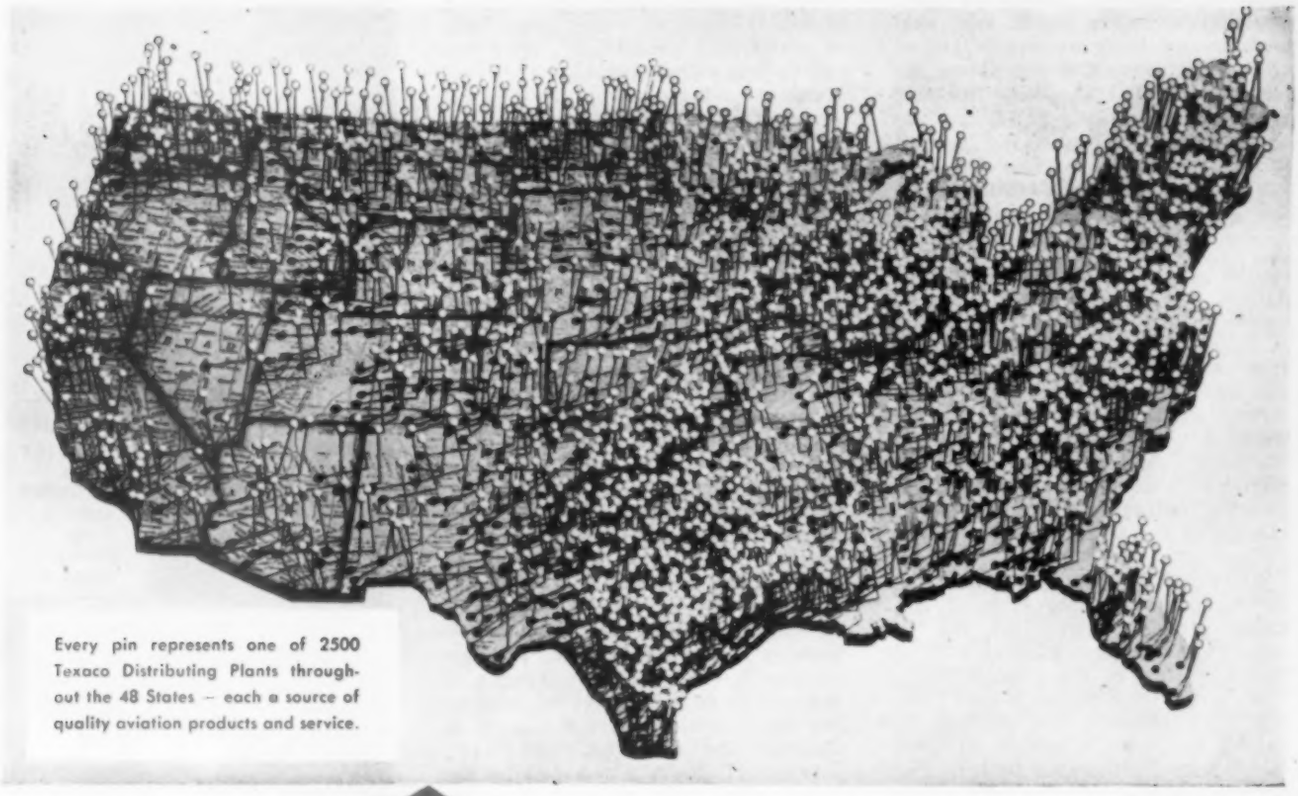

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VOL. IX, NO. 3 MAY, 1948

Modern AIRPORTS

THIS MONTH'S MODERN AIRPORT is the Class 3 Natchitoches Municipal Airport in Louisiana, 65 miles South of Shreveport. Only recently returned from the AAF, Raymond Breazeale, leading Louisiana dusting operator for years, has re-opened his operation with aerial agricultural services, approved flight school and repair station and Piper and Stinson sales. In service, courtesy and cleanliness, the airport has become a model installation under Breazeale's operation. Paved runways are 4,975 ft. and 4,000 ft. long by 150 ft. wide and the turfed landing areas are maintained in year-round top shape. Some of the South's finest bass lakes are nearby and Breazeale will gladly make guide, camp reservations and transportation arrangements for visiting airmen.
—(SOUTHERN FLIGHT Photo by Tom W. Collins.)

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Modern Airports

Obsolescent Airports

Safety of airline operations outweighs distance and ground-travel factors in a CAB decision transferring Akron, Ohio, traffic.

By JOHN H. FREDERICK

THE Civil Aeronautics Board has recently issued its decision in the Akron Airport Case involving the important question of whether the certificated airlines should continue to serve that city through the Municipal Airport, as they had for years, or might transfer their operations to a new and more distant field to be known as Memorial Airport.

Under its Economic Regulations the CAB requires airlines to file notices whenever they desire to change airports in order to render service to cities for which they are certificated. Such notices must be filed thirty days prior to the start of service at an airport not previously used. Use of the new airport is automatic after filing of the notice unless the Board orders the carriers to show cause why such use should not be disapproved. When an order of this sort is involved the new airport cannot be used until a public hearing has been held and the Board finds that public interest would not be adversely affected by the proposed change.

In the Akron case the city contended that the increase in costs and time required for ground transportation between the city and the new field—Memorial Airport—would impose an undue economic hardship on air travelers. It also contended that, while scheduled air services into the Municipal Airport had been subject to certain limitations which prevented unrestricted operations with all types of equipment, it could and would be improved so that reliable service with a minimum of restrictions would be possible. The airlines, on the other hand, claimed that the proposed improvements to the Municipal Airport would not be sufficient to assure safe and economical unrestricted operations and that any economic detriment to the public resulting from more inconvenient ground transportation would be counteracted by the more reliable and safer service available at the new airport.

To resolve these contentions the CAB examined the present conditions at both airports and the city's improvement program. Its conclusions are of significance to operators of some of the older, poorly-located, poorly-zoned airports. This is particularly true at cities where newer facilities are already under construction or planned. It raises questions of how to hold the customers—the airlines. We have been inclined to sort of take airline use of a municipal or other terminal-type airport, no matter how poor it might be, for granted. The airlines have needed the airport but the airport also needs the airlines and now the situation is changing in numerous places and likely to change in others, as new fields, many of which are ex-war facilities, become available often at smaller communities within easy reach of the city served by its own inadequate, now obsolete, airport.

Decision Based on Economics, Safety

The Board pointed out that whether the proposed transfer of airline operations from one airport to another would be adverse to the public interest involved both safety and economic factors in its determination, and must rest on a comparison of the service possible at the two facilities. In the Akron case it was brought out that upon completion of the proposed improvements, the airport presently used by the airlines—Municipal Airport—would at best have only two runways available for unrestricted operations, one of which would not have a 40-to-1 glide angle in either direction and the other would be only 5,300 feet in length. Under such conditions the Board felt that "it is doubtful if an instrument landing system could be established at the Municipal Airport;" and if it were established "it would be of slight value in reducing weather minimums." It was further pointed out that the old airport consisted of only 600 usable acres with an industrial development, consisting of five large buildings, located on the airport proper and which would not be removed. Moreover, the Municipal Airport's location was held to be against it since it was situated in a shallow valley which inhibits the drainage of ground fog and smoke and is partly surrounded by a residential and industrial area which has numerous obstacles to airline approaches and take-offs. In other words, the old Akron airport, one of the earliest used for commercial purposes in the country, is suffering under the deficiencies of locations which just cannot be changed in order to meet the needs of present day airline operations. It, as are many other airports developed in past years, is simply obsolescent.

On the other hand, the Board found the new Memorial Airport was located on a plateau in a sparsely populated area with three 5,600-foot runways having 40-to-1 approaches in all directions. It has 1,100 usuable acres and can be expanded either by the installation of dual runways or by the lengthening of the present ones. An instrument landing system has already been installed and is proving satisfactory and additional landing systems can be established, if necessary, for all but one of the other approaches.

The City of Akron admitted the present deficiencies of Municipal Airport, but pointed out that it expected to improve facilities there by raising the grade of and lengthening existing runways, by constructing new ones, by removing all above-surface obstacles in the approaches East and West, and by installing additional airway aids. "It would appear," said the Board, "that the improved Municipal Airport could handle all types of equipment which the airlines anticipate using in the near future although some weight restrictions would be imposed on all runways except the North-South and possibly the Northeast - Southwest." The Board also pointed out, however, that even with proposed improvements, the Municipal Airport would still fall "short of the standards for an ILS installation" although one might be established as an exception or for limited operations. "Such an installation, however, would be of slight value in increasing the reliability of Akron service for with the blimp hangar protruding above the airport proper to a height of 300 feet only a 300-foot clearance is available under present ceiling limitation. Consequently, even with ILS available, it would not appear safe or practical to lower the ceiling minimums to levels obtainable at other airports in the area where few obstructions exist."

The Board held, therefore, that "while Akron's improvement program would lower the gross weight restric-

tions imposed at the Municipal Airport, the obstacles at and near the airport would prevent any substantial lowering of weather minimums and the most effective use of an instrument landing system. Consequently, the less restricted operations possible at the Memorial Airport would assure a more reliable service with a greater margin of safety than would be possible at the Municipal Airport."

Distance Costs Customers

Airport accessibility is an important matter. It will become increasingly so as air transportation becomes more of a mass media. Most communities are straining to bring airports closer in wherever possible, but on account of increased safety and reliability of air service a more distant airport may be preferable. In this case, Memorial Airport is approximately twelve miles farther from the center of Akron than is the Municipal Airport and so involves about 20 minutes additional driving time. The present limousine fare from the center of Akron to the Municipal Airport is 86 cents and to the Memorial Airport $1.50. Cab fare to the Municipal Airport is 75 cents and to the Memorial Airport $3.10. Approximately 60 per cent of the area population in the Akron-Canton area is nearer to the Municipal Airport and would be inconvenienced by the added mileage and time involved in a trip to the Memorial Airport. The City of Akron estimated the number of passengers who would use the airport, in 1960, and on that basis computed the cost to Akron residents if the Memorial Airport should be used rather than the present facility, capitalized the result on a 30-year basis and estimated that the loss to Akron business people would amount to $7,422,300 over a 30-year period, or $247,410 per year. The board held, however, that "such inconvenience cannot be considered 'in vacuo' but must be considered in relation to the comparative safety and reliability and types of service available at the two airports."

The Board, of course, recognizes the need for expedited surface transportation at low cost between airports and metropolitan centers, but considers that the establishment of a more reliable and dependable air transportation service is of at least equal importance—if it can be brought about through the minimizing of cancellations, late arrivals and late departures. While these disruptions of service result from many factors, some of which are as yet beyond control, a change to a more favorably located airport may reduce their frequency. The Board pointed out that "ideally, airports should be located in close proximity to population centers at points where the maximum clearances are available in all directions. Unfortunately, that is rarely possible as the proximity of airports to heavily populated areas frequently increases the obstacles to safe flying operations. Where economic benefits have been great and more suitable sites unavailable within a reasonable distance of the city, we have approved service to airports where operations with the desirable safety margin could be achieved only by the establishment of stringent weather and gross weight restrictions. Admittedly, such service is not so satisfactory or dependable as at airports where operations can be conducted with minimum restrictions."

Safety Outweighs Accessibility

The Board appears to take the attitude that while it is good to have airports in close proximity to a city, this shall not be the chief criterion if there is another airport that can be used offering better flying conditions. It is true that accessibility is of no value if the airport is closed a good part of the time or if gross weight restrictions reduce passenger and cargo space to an uneconomic level for the airlines.

The Board has now definitely gone on record. Numerous airports now find themselves in the obsolescent class or close to it. Action is necessary or other communities will find themselves in the position of Akron with an airport on which nearly $5 million has been invested relegated to non-airline status.

(Continued on page 48)

Something new in Class I airport construction is the Andrews County Airport in West Texas, with paved runways and taxiways. Center of field is only 9/10ths of a mile from center of town. —(CAA Photo.)

Low-Cost Class I Airport with Paved Runways

By J. D. CHURCH

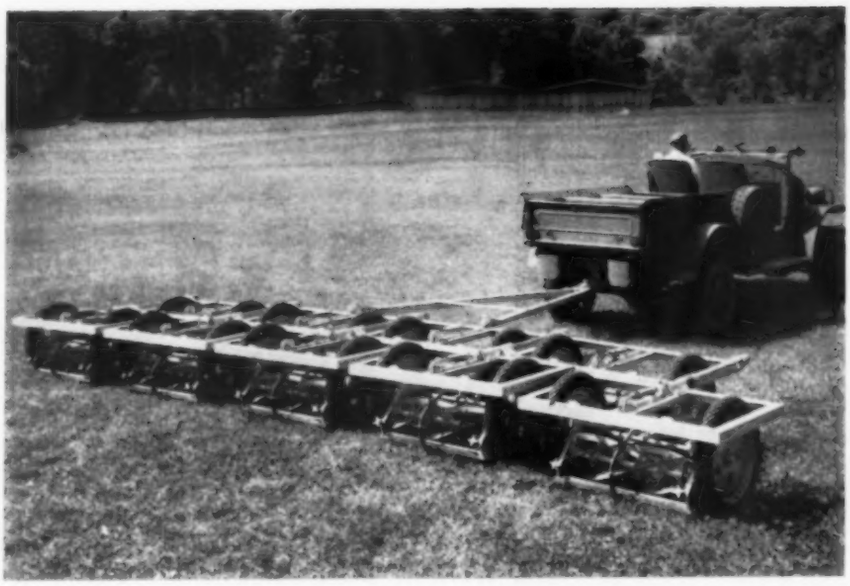
A NOTABLE Class I Federal-aid project costing only $68,000 ($35,000 Andrews County, $33,000 CAA) has been built at Andrews, Texas, with three paved runways and a complete system of paved taxiways.

The usual Class 1 airport employs wide, unpaved landing strips. But the new Andrews County Airport's paved runways are 2,800 ft. long and 60 ft. wide with 60 ft. of added width provided by oiled shoulders. Taxiways are 25 ft. wide. The total paved area is only about 70,000 sq. yds., which is less than that contained in a single runway of conventional size. A paved parking apron, paved access road, segmented circle marker and at least one hangar are to be added.

Favorable reaction of local fliers to the new Class 1 design has indicated similar airports will be constructed in other West Texas communities. A design which is much the same has been prepared for Menard, Texas.

The Andrews County Airport construction contract, performed by Harry Campbell of Fort Worth, totalled $58,752.09, the land cost $4,588.64 and engineering and contingency costs approximated $4,600. Hugh C. Dickson of Monahans, Texas, prepared plans and specifications and was the sponsor's engineer. ★ ★ ★

Turf For Your Airport



Mowers of this 9-gang, reel type may be towed at speeds of 10 mph. or faster and set to cut at heights of 3 to 5 inches.
(Civil Aeronautics Administration Photo.)

By GORDON H. JONES
Regional Agronomist, 4th Regional Office
Civil Aeronautics Administration

SMALL plane owners and pilots almost unanimously prefer to operate off of turf. This is due to the fact that a good sod cushions landings. Nevertheless, there is probably no item of maintenance on airports which is given less attention than maintenance of turf. The fact that it is "just grass" places it about the same category as Topsy who "just growed."

The president of one of the national aviation organizations illustrated this point very well when asked if he preferred to use turfed fields. His answer was "Yes, if it's my own field, but No, if it's a strange one." In other words, he never knew whether the strange field would be rough, full of holes, boggy or what. This might seem to be an indictment of turf itself, but actually, it serves to illustrate another point and that is the fact that a little grass on a landing strip does not make a turfed landing strip. In fact it is usually worse than no grass at all, because it picks up blowing soil and forms hummocks. To be truly beneficial, a turf must be dense enough to really provide a surface cover.

The operations involved in maintenance of turf are relatively inexpensive and simple. While the benefits may not readily be apparent, they will invariably assert themselves in increased utility and attractiveness which in turn helps merchandise an airport and the services it has to offer.

The function of turf or other vegetation on airports is to provide a wearing surface for plane traffic, to control dust and drifting sand, to prevent erosion, to add attractiveness, and possibly to produce revenue. Each has its place, varying in order of importance with the kind of airport, the locality in which it is situated and the principal use of the areas involved. These functions should all be considered in maintenance of airport grounds.

Grounds at airports may be classified in accordance with the usage of the areas concerned. These classifications are: 1. Intensive traffic areas. 2. Occasional traffic areas. 3. Non-traffic areas. Intensive traffic areas, as the name implies, include all unpaved areas used for landings and take-offs, taxiing or parking of planes. This includes the full width of landing strips, taxi strips, apron areas and the entire landing area of an all-way field. Occasional traffic areas include interior triangles, approach zones and similar areas on the landing field within the boundary markers. Non-traffic areas are comprised of those portions of the airport outside of the boundary markers.

While the above classifications may sound a little elementary, they help in planning a maintenance program. They may even be applied to the grounds of the building area, lawns and recreational areas being classified as intensive traffic areas, etc.

Intensive Traffic Areas

In the March issue of SOUTHERN FLIGHT the "big four" of turf maintenance operations applicable to intensive traffic areas were briefly mentioned. They were: 1. Regular mowing. 2. Periodic fertilizing. 3. Smoothing. 4. Policing.

The most economical method of mowing large areas is by use of high-speed, reel type, gang mowers. These mowers may be towed at speeds of 8 to 12 miles per hour depending upon the smoothness of the area and will cut a swath up to 21 feet wide. Contrasted with this, sickle-bar mowers are operated at speeds of about 3 miles per hour and cut a swath of only 5 to 7 feet. The increased acreage gained by the higher speeds and wider swath may be illustrated by the following figures:

Type of Equipment	Acres in 10-Hr. Day
7-ft. sickle-bar cutting 6.5 ft. swath at 3 mph.	23
3-gang, reel-type mower cutting 7 ft. swath at 10 mph.	85
5-gang, reel-type mower cutting 12 ft. swath at 10 mph.	145

From these figures it may readily be seen that a material saving in manpower and other operating costs can be made by use of gang mowers where large areas are involved. Under these conditions the cost per mowing by sickle bar mowers will be several times as much as one mowing by reel-type mowers. More mowing will be required by the reel-type mowers, however, since they will not cut vegetation more than 10 to 15 inches tall, but a denser turf will result from the more frequent mowings. On small airports, there is less economy involved in the use of gang mowers and it may be desirable to use a sickle-bar mower, due to the fact that the owner or the operator can hire his mowing done by a neighboring farmer or can rent the necessary equipment as required.

A good practice to follow in mowing established airport turf is to set the mowing units to cut at a height of 3 inches. A 3-inch height will encourage a deep, well-developed root system as well as leaving more top growth as a protective surface cover. On weedy, newly planted areas this height should be lowered to 1½ or 2 inches until weed competition has been eliminated and the turf established. In maintenance of lawns or turf on recreational areas the 1½-inch height of cut is preferable. Incidentally, in developing lawn areas it will be to your advantage to keep them as free of flower beds, trees and sharp corners as possible, so that they can be mowed with power equipment.

If there is any magic formula for the maintenance of turf under traffic, particularly on poor soils, it is the proper use of fertilizer. It is the one maintenance operation that most airport operators and managers neglect entirely. This is partly due to the fact that fertilizer requires a cash outlay but is principally due to the fact that most operators and managers are unfamiliar with what can be accomlished by its proper use.

Nitrogen is the principal food element required for turf maintenance in the South and Southwest. The need for phosphate, potash or lime may be determined either by quick laboratory tests or by simply establishing a small plot of the material in question and watching the results. If any of these materials are required, one application every three to five years will usually be adequate. Nitrogen, however, leaches readily from a soil and accordingly, may be needed annually until a fertile layer of topsoil is built up over a period of years.

Analyzing Fertilizers

In buying fertilizer, it is easy to become confused by the large numbers of grades and brands of fertilizers on the market. Actually, the problem of selecting and buying the most fertilizer for your money is simple enough. To protect the consumer, state laws require that every bag of fertilizer must be marked with the minimum percentage of each food element contained in the bag. These percentages are always given in the following order: Nitrogen, phosphoric acid and potash. For example, a fertilizer containing 6 per cent nitrogen, 8 per cent phosphoric acid and 4 per cent potash is known in the trade as simply a 6-8-4 and may be purchased regardless of trade names by simply asking for a 6-8-4. Since nitrogen is the principal and most costly food element required for turf maintenance, its cost should always be carefully studied. High grade fertilizer materials containing 10 per cent to 35 per cent nitrogen are usually the cheapest sources of nitrogen. Thus a material like ammonium nitrate containing 33 per cent nitrogen, even though it costs $75 a ton, would be a much cheaper source of nitrogen than a 4-12-4 costing only $40 a ton. In the case of the ammonium nitrate you are getting 667 pounds of nitrogen (2,000 x .33 = 667) as compared to 80 lbs. of nitrogen (2,000 x .04 = 80) in the case of 4-12-4. This is in no way a criticism of the 4-12-4, since it also supplies phosphate and potash, but serves to illustrate the desirability of using a high-grade nitrogenous fertilizer when you need nitrogen. Similar cost comparisons can be made with any two fertilizers. A list of commonly used fertilizer materials showing the approximate percentages of food elements contained in each material follows:

Material	Per Cent Nitrogen	Per Cent Phosphoric Acid	Per Cent Potash
Grade 10-6-4	10	6	4
Ammonium sulphate	20	—	—
Ammonium nitrate	33	—	—
Calcium cyanamid*	21	—	—
Sodium nitrate	16	—	—
Urea	46	—	—
Ammonium phosphate	11-21	53-60	
Cottonseed meal	7	2.5	1.5
Bonemeal	2-3.5	20-25	0
Tankage	5-10	9-14	0
Activated sludge	5-6	2-3	0.5
Farm manure	0.5	0.25	0.5
Superphosphate	—	16-20	—
Treble superphosphate	—	43-47	—
Muriate of potash	—	—	48-50

*This material should always be applied alone as toxic cyanide compounds may result from mixing with other materials.

Fertilizers should be applied at a rate based on the nitrogen content of the material. For example, if 80 lbs. of nitrogen per acre is desired this rate may be supplied by using 800 lbs. of a 10-6-4, or 500 pounds of sodium nitrate or 242 pounds of ammonium nitrate. This further serves to illustrate the economy involved in using high grade materials, since less bulk is required resulting in lower hauling and application costs.

For maximum benefits, fertilizers should be applied at the beginning of the growing season of the turf grass being fertilized. In the South, such grasses as Bermuda grass and carpet grass should be fertilized in early spring. Fertilizer is applied by simply broadcasting the material uniformly over the turfed areas when the grass is dry. Disking or other means of incorporating the fertilizer with the soil is not necessary, except when applying phosphate or lime to areas being renovated or yet to be planted. Fertilizer should not be applied indiscriminately to all turfed areas but rather should be applied in proportion to the intensity of the traffic and the needs of the turf. It is also desirable to make two applications instead of one on sandy soils subject to rapid leaching.

The practice of checking turfed landing strips for smoothness is one that should never be neglected. Ruts and holes on these areas are not only a hazard to aircraft but result in a bad reputation for the field as a whole. While the initial smoothing of a landing strip may require a thorough renovating job, the follow-up measures of maintenance usually consist of bringing in soil and filling any holes or ruts that develop. A small dump trailer or similar piece of equipment is very good for this purpose. Too often the operator or manager accomplishes this smoothing work by use of a blade and, thereby, further intensifies his problem by scraping off what turf cover he does have. While smoothing by a light blading may be performed in early spring, it should not be practiced during other times of the year.

Policing is simply a matter of picking up rocks, cable and other trash that might be a hazard to aircraft. One way to insure good coverage of the landing area is to fit the mowing unit with a trash box and have the tractor operator police the area as he mows. The first few mowings may be pretty slow, but it will pay dividends. If you have any drainage inlets, they should be checked regularly to be sure that no debris has collected on them or that the soil around them has not settled.

Occasional Traffic Areas

For all practical purposes, occasional traffic areas can be considered as non-traffic areas except that they should be maintained in such a way as to be usable in case of emergency. They may even be used for revenue crops providing they furnish year-around cover, such as alfalfa, lespedeza or low-growing grasses for hay or seed production. In other words, maintenance on these areas need be only those measures required to provide dust and erosion control, a hazard-free landing surface and a respectable appearance.

Non-Traffic Areas

There are almost always extensive areas on airports which are not used for either landing area or building area. They are necessary for approach protection, future expansion or similar purposes. These are the areas that seldom get any maintenance unless possibly burning during the winter could be considered as maintenance. Actually, burning is generally detrimental as it destroys the surface cover, thereby increasing the dust of water erosion problems.

It is realized that the cost of maintaining these areas just for appearances may be prohibitive, particularly on large airports. Therefore, it would seem only logical to consider some type of crop which would not only contribute to the sightliness of the area but would actually provide revenue. Crops providing a year-round cover are always preferable since they provide erosion control. The factor of erosion should always be considered before turning under a permanent cover, as the cost of erosion repair or control may easily exceed the revenue obtained from crop production. Low-growing crops are also desirable since they will not interfere with sight distances and are not a serious hazard in the event of forced landings.

Routine Maintenance

There are several routine grounds maintenance activities which may be required on any of the areas discussed above. The principal ones are weed control and pest control. Generally speaking, weed control is best obtained by proper management of turfed areas, such as regular mowing, adequate fertilization and proper watering. In the event that immediate control of weeds is desired, in lawns or similar areas, however, certain chemicals may be used. Several of

(Continued on page 45)

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AS WE FOUND IT

on Cross-Country Survey

By SLIM and FRANCES KIDWELL

WE have just completed a coast-to-coast survey of airport service and accommodations along Skyway 1 and can now report that a "good deal" may not be found everywhere but there are surprisingly more "good deals" for the private flier than we ever imagined. Fliers are finding some airplanes and some airports to be better than others. They are learning how to avoid the gyp artists and the slouches.

The big surprise is that more operators than we expected are now recognizing the truth—that the flying public is becoming choosy and will do business only at airports where they find the best service and facilities. Good airports, like good airplanes, are more popular than ever. But the going is getting rougher by the hour for those who refuse to make improvements.

Our survey flight was not to criticize or find fault with anybody in particular but to seek out the better places and people and describe them as we saw them. If you're looking for the wailing wall, look some other place. Nobody profits when there's nothing but kicking to do. But by talking about the better places as we found them, we hope others will benefit—cross-country trippers may find a better overnight or fuel stop and operators might get some ideas to stimulate improvements in their facilities and service. Nor will our conversation become a directory of airports. We landed at 75 of them. We cannot list all of them because we don't think anybody else would want to visit all of them twice. Right here we want to apologize because we cannot list all of the best ones, either. Some that we found outstanding might not remain that way; others that didn't impress us might strike the next fellow as being okay.

All we're doing is giving the picture as we experienced it—man-and-wife team in a 2-place airplane out to try Skyway 1. We are airport operators ourselves, with years in the game. But all we have to sell is (a) aviation in general and (b) our own operation—Central Airport, 13610 South Central Avenue, Los Angeles, which we modestly proclaim to be America's finest and most complete privately-owned service center for the private flier. That's the last bit of commercialism you'll hear from us about our own operation. Luscombe loaned us an airplane and we returned it after our survey. It was a new 90-hp. De Luxe and we'll say right here it was a wonderful airplane, as comfortable as any 2-seater we know, had one of the finest radios we ever worked and got us in and out of some places we wouldn't try in any other airplane. It is leak-proof in heavy rain, which we were soon to appreciate. From here on out we're unbiased. We owe nobody anything. Our palms haven't been greased by a soul. We're on our own and we hope somebody will find our report useful.

East Texas

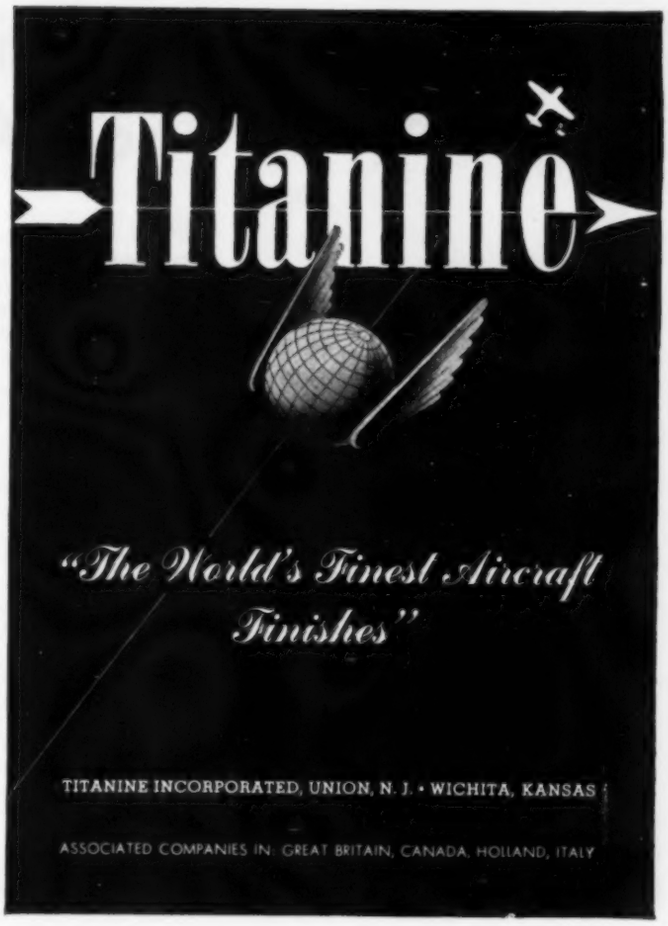
Although our survey started in Los Angeles, our first airport visit was in Dallas. We rode American Airlines to Dallas where we picked up the new Luscombe and hopped it from the factory across town to Marshall's Field. At daylight we joined a breakfast flight to Malakoff, 65 miles southeast of Dallas. This is a very nice airport, with a well-stocked private lake, where we were served an early-morning's flier's delight—ham and eggs, country style. Then we took our leave to go airport hopping in East Texas, stopping first at Jacksonville for gas. Intercepting Skyway 1 at Tyler, we found Stewart Field there to be a very nice airport. The operator was congenial and

we learned their cab fare to town is only 50 cents. They have motel accommodations across the street, a drive-in theatre within walking distance, and a restaurant. The operator thinks the credit card system for fliers is not as practical as it should be.

Our next stop at Kilgore found the airport manager busy with a student so we visited with one of the employes. The field is good, the service is good and the personnel are friendly. Two airports at Longview were our next stops. One was Eastside Airport, which we found partially under construction but a fine place as we approached in a heavy rain storm. After staying in the cabin to keep dry, we visited with the boys as the rain passed and learned they were reworking the runways and bringing the field up to first-class condition. Then we hopped across town to Gregg County Airport, a beautiful county-wide project serving Kilgore, Gladewater and Longview. Here is one of the finest restaurants we found on all of Skyway 1 and non-fliers from nearby towns were crowding the dining room. We had a pleasant visit with Elmo Penn and competent staff in their big new hangar, including Bob Saxon (whom we knew on the West Coast when he was with Lockheed), who has a radio shop. Ceiling and visibility dropped below the minimums as we took off but we circled back in and were taken to a good hotel downtown by Penn. He assured us that his crew sees that transient traffic using Gregg County Airport will be furnished transportation and that he plans a suitable rental-auto deal and maybe a tourist court.

Next morning we hopped back to Dallas for some mail which was being forwarded to us from the Coast, making a point to arrive at Marshall's Field for lunch. There is a restaurant across the airport (free transportation is available) with excellent steaks at reasonable prices. White Rock Airport in Dallas was our night stop because it was only a short distance by taxi from a neighborhood hotel. Early the next morning we loaded the Luscombe to capacity and headed East, with Shreveport as our first stop out of Texas.

(To be continued next month)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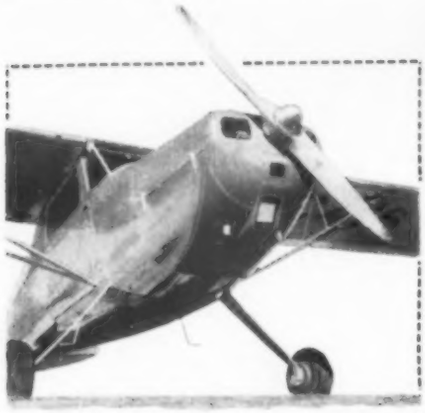

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Questions and Answers For Airport Operators

Model Airplanes on the Airport

QUESTION: A high school senior came into the office and asked for permission to put on a model airplane contest at the airport. I'm wondering if I should give him permission.

ANSWER: A lot of airport managers have answered that question for you already. They not only permit controlled model flying and contests, they encourage them and, in fact, some of them sponsor such contests. We suspect that the reason they do is that it is another method of merchandising aviation.

It all goes back to the old need for generating interest in aviation and public acceptance of both aviation and airports. It is another way of bringing activity to the airport and, with it, more visitors and spectators. You'll probably find that the youngsters won't be alone. They'll bring their fathers and brothers and friends. You might never have gotten some of these people out in any other way. Yet to get them out once and then again is a first need in getting them interested in the things you and your operators have to sell. Even if they don't buy aviation for themselves, they at least will know you have an airport and certainly feel no less kindly toward its support. Aviation may move into many homes through the hands and hearts of children.

Don't overlook, too, that the kids will grow up within a few years. If only a few retain their interest in aviation, they still constitute a reservoir of prospects for training in flying. Free-flying models have no place on the airport because of hazards, but controlled models are permitted and encouraged on several airports familiar to us. These exhibitions are skillful and exciting. Care should be exercised in selecting the area for such activities. It probably should not be on the landing area proper but on a marked-off part of the apron, on the lawn out front or in some area safely removed from air traffic. Spectators should be kept at safe distances. In fact your city officials may want you to cover your public liability with some sort of insurance. We don't know whether this has been done or not.

Help for the Mayor

QUESTION: Although I am not an airport manager, I have been reading your questions and answers. I am the mayor of our town. We have a pretty progressive community and managed to obtain a surplus military airport. We hired one of our returned veterans, a young officer, as manager. It was a popular selection and he's a fine young man. I told him when he was hired, "There's your airport — run it and do the best job you can." He has done a lot in the last year. He even got a small restaurant and my son tells me a lot of people go out there to watch the airplanes. My problem is this: The airport manager plagues the life out of me to come out and go flying with him. If he isn't doing that he's asking for more money for paint or some scheme for spending more. He feels it will pay dividends eventually, but I got so fed up recently I came pretty close to firing him. Do all mayors have the same trouble with their airport managers?

ANSWER: No, but they should hope to. Don't call it "trouble." You ought to be glad your manager is eager. You told him to run it, didn't you? He can't do it all without your help and backing. Why does your son have to tell you what's going on at the airport? You ought to go out once in a while yourself. The airport

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and your manager shouldn't be orphans. They have a service function for your community. Every citizen is closer to the rest of the world because of that airport. Take him up on that flying offer. In time you'll get a closer view of his problems and of the things he is doing and wants to do. Like many, many business men, you might also find flying of value to you and your work and pleasure. We know a mayor who is a pilot and he benefits from his ability to fly and so does his work. We mentioned your question the other day to W. T. (Bill) Brown of the CAA, who knows you. He was surprised you haven't already taken up flying, what with all the facilities your town now has. Without knowing your airport manager, we feel safe in saying you should hold on to him so nobody hires him away. It has happened, you know.

Too Much Airport, Too Little Maintenance

QUESTION: Spring rains are washing out some of our shoulders and drainage ditches faster than we can maintain them on our surplus airport, which was really too big for a town the size of ours when we took it over. What can we do to keep our maintenance abreast of the wear and tear, when there is more wear and tear than we have maintenance equipment and labor to handle? I've heard of ideas to mark off some of the airport and let it go to waste in order to keep good maintenance on the rest. What about that? The damage would mount up in a year or two and then it would take a lot of money to restore the area.

ANSWER: The first thing to do is check the deed or transfer instrument, under which your community secured the surplus airport, to determine what the community is required to maintain. If the entire land area was considered airport property, at the time of disposal, your obligation under the transfer instrument would include the whole area. You say that you are unable to maintain an area that size, probably through lack of funds. If you have considered all the sources of revenue available to the airport from operators, concessions, from agricultural use of off-field areas and still can not secure enough revenue in addition to the appropriation which you can secure from the owning city or county to maintain the airport, then it seems you have only one possible recourse.

It is recommended that before taking that course you explore every possibility of securing funds to maintain the airport because you may need it in its existing size five or ten years from now. If, however, you find that no more can be done, you should consider your reasonable needs in area and facilities and seek to get a reclassification of airport property. It should be borne in mind that some maintenance, insofar as drainage ditches and slopes are concerned, may be required outside of the area required for flying activities in order to preserve the smaller area which you feel will serve your needs. To secure reclassification, it is believed that your best approach is to write to the Regional Administrator of the Civil Aeronautics Administration in the Region in which your airport is located, asking for a re-survey and reclassification. State all the facts and give full information on what you want to do. ★ ★ ★

TURF FOR YOUR AIRPORT

(Continued from page 41)

these chemicals are available commercially and should be selected for their ability to kill the weed species desired without injuring the turf species. A few materials which will control most weeds are sodium arsenite, sodium chlorate, 2,4-D and ammonium sulfamate. Directions for application may be found on the containers. When it is desired to burn all vegetation severely, Diesel oil, kerosene, or gasoline may be used effectively.

Around contact lights and along woven wire fences it may be desirable to completely sterilize the soil so that no vegetation will grow. In these cases, heavy rates of sodium arsenite or borax are most effective. Caution should be used with sodium arsenite as vegetation treated with it is poisonous to livestock.

Controlling Pests

A few pests are found in the South and Southwest which may actually damage turf or at least become nuisances on airports. The principal pests encountered are pocket gophers, prairie dogs, crawfish and red harvester ants.

Pocket gophers may be controlled by placing poisoned grain in the burrows and by trapping. These measures must usually be used together inasmuch as poisoning alone is not 100 per cent effective. Poison grain may be obtained commercially or from the Fish and Wildlife Service. Prairie dogs may be controlled by use of poisoned grain and by cyanide flakes or carbon disulphide. In general, the poisoned grain is used for large areas with the latter materials used for small areas or for clean-up operations. Cyanide flakes are placed in the burrow, using the equivalent of the amount held by a large mixing spoon. Carbon disulphide is used at the rate of ½ to 2 ounces per burrow. In either instance, the burrow is closed immediately after application of the materials.

Crawfish may be controlled by dropping approximately 10 drops of carbon disulphide into the burrow and closing it or by placing 1 to 2 ounces of emulsified cattle dip made of coal tar and creosote in the burrow. Recent tests indicate that DDT sprayed over the area may also be effective.

Harvester ants may be controlled by cyanide or carbon disulphide but recent studies indicate that very effective control is obtained by simply pouring 4 to 8 ounces of a 3 per cent solution of Velsicol 1068 in the opening of the nest. ★ ★ ★

A 10-gpm. meter-equipped rotary hand pump is now available from Bowser, Inc., Fort Wayne, Ind. The unit includes a 40-in. suction pipe with bung attachment, 8-ft. oil resistant discharge hose and aluminum nozzle. The meter registers to 8 gal. and is equipped with a 9,999 gal. totalizer.

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GONE TO TEXAS

(Continued from page 16)

ning to increase greatly its production of Metalite and Fabrilite, revolutionary aircraft materials developed by Vought, which require constant control of both temperature and humidity during fabrication. This control is possible because the former North American Dallas plant is completely air conditioned.

An interesting sidelight is the fact that Chance Vought has it own fleet of airplanes for executive transportation and for experimental and flight test work. In addition to company-owned F4U-4's and 5's the company operates a twin-engine Beechcraft, a Beech Bonanza and an SNJ North American Texan trainer. Although it will require just about six hours of flying time on DC-6 airliners out of Dallas to Hartford, main office location of the parent United Aircraft Corporation, Chance Vought officials probably will find their executive aircraft even more useful in the Texas location. Close liaison with Navy aviation establishments as well as with the parent corporation will be possible largely through the use of company-owned aircraft for executive travel.

Last June we attended the 30th anniversary celebration of Chance Vought at the factory in Stratford. The principal speaker at these ceremonies was Admiral DeWitt C. Ramsey, who had this to say about the veteran aircraft company:

"I speak for the entire Naval Service when I say that your contributions to the success of Naval aviation have been as outstanding as they have been numerous. Chance Vought Aircraft has truly left its own distinctive mark in the mold of American sea-air power . . . . When we seek the reasons for the success of any organization, it is not amiss to look around for the boss, and to see what kind of a fellow he is. I happen to know Mr. Beisel—a personal salute to your outstanding leadership."

Next month will be the 31st anniversary of this great company. There probably won't be any fanfare or ceremonies. But all Texas and the great Southwest can well repeat Admiral Ramsey's many happy returns of the day—plus the additional "Welcome, Podner. We're glad to have you aboard!" ★ ★ ★

CHRONOLOGICAL HISTORY of CHANCE VOUGHT AIRCRAFT

THIRTY-ONE years ago on June 1, 1917, two enthusiastic, enterprising men shook hands on a "gentlemen's agreement" as they stood in what passed for the office of a makeshift factory building in Long Island City, New York. They had just agreed to cast their lot together, to pool their ideas and their resources. Chance Milton Vought, pioneer pilot and skilled aeronautical engineer, had ideas for airplanes that would make our airmen the best equipped in the world. His friend, Birdseye M. Lewis, had a background of business management and belief that aviation was now coming of age. With that handshake the Lewis & Vought Corporation, aircraft designers and manufacturers, was born.

Trainer Out-Performed Fighters

Lewis and Vought's first finished product—a complicated maze of wood, fabric, struts and flying wires—was a two-place training airplane, the VE-7A. Army fliers who first tested the new trainer acclaimed it for its maneuverability and speed. Brig. Gen. William (Billy) Mitchell, famous first prophet of air power, announced "the Vought machine has all the air qualities of the single-seater chasse machines" and said it would out-maneuver the French Spad and the English SE-5, then the standard equipment of the Allied aerial forces of World War I.

A handful of workers built each airplane from the ground up and Vought frequently pitched in to lend a helping hand. It became a familiar sight to see him screech his car to a stop in front of the manufacturing plant, the seats loaded down with badly-needed materials, and then shout to the workmen inside to drop what they were doing and help carry the parts inside.

Little is known as to when Birdseye Lewis severed his association with the new aircraft corporation, but with the end of the war the firm was guided solely by Chance Vought, chairman of the board and consulting engineer, although the firm held to the original corporation name.

First Carrier, Catapult Planes

Next production model to be developed by Vought was the VE-9, adopted by the Navy and subsequently standardized for advanced training and gunnery purposes. Planes of this type later were used in the first catapult experiments. When the old U. S. S. Langley, the Navy's first aircraft carrier, was commissioned, it was equipped with VE-9's fitted with arresting gear for deck landings. Since then a chronicle of the history of the Vought organization is almost a history of the development of Navy aviation.

In 1920 the name of Lewis was dropped from the company's corporate name and the young, but significantly successful, company became the Chance Vought Corporation.

While the VE-9 was establishing records for reliability of operation and literally becoming the guinea pig for the proponents of carrier aviation, Vought kept his engineers busy developing his concepts. In 1921, the company's first single-seat fighter, the VE-11, was produced, to be followed in 1923 by the adaptable UO-1, a two-place Navy observation plane convertible as either a landplane or a seaplane. In the effort to devise new "eyes" for the capital ships of the fleet, experts of Naval aviation suggested catapulting planes from battleships and scout cruisers. The UO-1 was one of the first planes to be used in these experiments and when it was decided to equip fourteen first-class battleships and ten cruisers with airplanes, the Vought airplane was the one selected. The plane had a top speed of 134 miles an hour; it could climb to 8,600 feet altitude in ten minutes, and it had a four-hour scouting range.

The next noteworthy Vought "first" came in the FU-1, a high-altitude fighter plane built for the Navy in 1925. This model was the first military airplane ever to go into quantity production that was equipped with an air-cooled engine having a supercharger. For armament, the FU-1 carried two fixed .30 caliber machine guns, synchronized to fire through the propeller.

Birth of Corsairs

The following year, 1926, saw the birth of the famed Vought Corsair. The O2U-1, as the airplane was designated, was truly a "jack-of-all-trades" being convertible as a landplane, a seaplane or an amphibian.

Once in operation, pilots flying the new Corsairs established four new world's records. Equipped as class C2 seaplanes and carrying loads of 500 kilograms (1,102 pounds), an altitude record of 22,178 feet was set, exceeding the former record by some 2,000 feet. Nine days later another pilot established a new speed record for the 100 kilometer closed course of 147.26 miles an hour, bettering the former record by 20 miles an hour. With an average speed of 136 miles an hour for the 500 kilometer closed course, the Corsair shattered another record and then the fourth was over a 1,000 kilometer closed course with an average speed of 130 miles an hour, eclipsing the former record of 103 miles an hour for the distance.

Another memorable "first" took place in 1928 when U. S. Marine aviators, flying Corsairs, carried out an air attack against 1,500 Nicaraguan rebels firmly established in strategic positions on the side of a mountain.

Four Corsairs took part in the Marine raid and after strafing and bombing the rebels, the rocky positions were shattered and ground troops were able to complete the rout. The O2U-1 was also the first service airplane to use the Pratt & Whitney Wasp air-cooled engine rated at 425 horsepower.

Steadily the company grew and by the end of 1928 the corporation had become the second largest producer of American military airplanes. Various models of the Corsair were staunch mainstays of the U. S. Naval aerial strength, the O2U-2, O2U-3, and O2U-4, each offering better performance and more modern equipment than its predecessor.

New Factory

It was in February, 1929, that Chance Vought Corporation joined with other aeronautical manufacturers in forming the United Aircraft and Transport Corporation, which later became the United Aircraft Corporation of today. Almost immediately it was decided to move the Chance Vought plant to East Hartford, Conn.

But dynamic Chance Vought, a colorful figure at the outset and an astute judge of what was good and bad in airplanes for certain, was not destined to witness the transition of the company that bore his name from a small, alone-in-its-field group to an important subsidy of a huge industrial corporation. From the dozen-odd employes of the early 20's, personnel had been increased to more than 350. The annual payroll was well over a million dollars. The new plant had scarcely been completed when Mr. Vought died in 1930. He had, however, endowed his organization with engineering ideas and production "know how" that were to remain with the new company throughout the years.

The first new-type airplanes to be produced in the new plant were a continuation of the Corsair line — the O3U-1 series — an observation and scout type.

A few months later saw the completion of still another new airplane, the O3U-2, embodying many improvements over earlier models and powered with the then "ultimate" in aircraft engines, the Pratt & Whitney 575-horsepower Hornet engine. Development of the new airplane brought to the Chance Vought Corporation a three-million-dollar Navy contract for the purchase of 122 planes, with a varying production schedule averaging about nine planes a month. In a period when disarmament was the keynote of plans to "keep the peace" and the worst depression in the history of the country was paralyzing all industry, this was a major event, and as subsequently proven, one of the major factors in keeping military aviation alive in this country.

1,000 Planes in 13 Years

By 1933, after 13 years, the Chance Vought Division had produced its one-thousandth airplane and Corsair airplanes were in service for many foreign governments, including Great Britain, China, Brazil, Mexico, the Dominican Republic, Cuba, Peru, Argentina and Siam.

Production in the division in 1934 had expanded to a point where five separate types were being produced at one time. New types were the SU-2 and SU-3 Corsairs, powered with the Hornet engines and the 03U-3 equipped with the Wasp engine, all designed and built especially for our own Navy; the V-80 single-seat fighter and V-90 two-seat Corsair, built specifically for export to foreign governments.

Low-Wing Pioneering

Nineteen hundred and thirty-five saw the aircraft manufacturing group become a full-fledged division of United Aircraft Corporation and also the first successful flights of the SBU-1, a new scout bomber whose clean lines and 700-horsepower P&W Twin Wasp Junior engine made possible a top speed in excess of 200 miles an hour, the first carrier-based airplane of its type to achieve this speed.

Deliveries of the SBU-1 continued into the following year and in the meantime Vought engineers and production men were rushing to completion a new scout and dive-bomber which was the first radical departure from all previous Vought designs. The XSB2U-1, an experimental, low-winged airplane designed for high speeds and built to carry machine guns, a 1,000-pound bomb and a complement of smaller bombs, first flew at Rentschler Field on January 5, 1936. The XSB2U-1 with its 750-horsepower Pratt & Whitney Twin Wasp Junior engine, retractable landing gear and sleek design, was the forerunner of the Chance Vought Vindicator series, which did Trojan service for the Navy and Marine Corps during the early days of World War II.

The company's work during 1937 and 1938 was largely concentrated on the manufacture of the SB2U-1, SB2U-2 and SB2U-3 whose place as top-ranking scout dive-bombers was an accepted fact.

Production of these types was still in progress when the division moved from East Hartford to Stratford, Conn., in early 1939.

1939 Expansion for War

The move to Stratford embodied also a consolidation with the Sikorsky Aircraft Division of United Aircraft Corporation, the new organization becoming the Vought-Sikorsky Aircraft Division, and it marked a period of wartime expansion that was to see its total floor area increase more than tenfold and the number of employes soar to a figure more than thirteen times as great as in 1939, when some 900-odd people were employed.

Production of the SB2U Vindicator series for the Navy continued at Stratford and other planes of substantially the same type were manufactured for the French and British governments.

In the meantime contracts for construction and development of other types were received by Vought-Sikorsky. The first commercial venture attempted by Vought came during its period of consolidation with Sikorsky Aircraft. In July, 1940, production on three VS-44-A flying boats,

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commercial counterparts of the Navy XPBS-1 patrol bomber built by Sikorsky in 1937, was started. Work was completed and the planes delivered to American Export Airlines in 1941. Subsequently, these airplanes become the first to provide regularly scheduled non-stop transatlantic service.

Another top-priority project at the Stratford factory was the development of the OS2U Kingfisher observation-scout plane for the Navy. The contract for the Kingfishers was the largest ever received up to that date by the Vought organization and from the time the first production model of the OS2U took to the air in April, 1940, until the contract was completed in September, 1942, a total of 849 airplanes of this type had been delivered to the Navy.

Before the actual start of the war in 1939, Chance Vought engineers were designing a new single-engine fighter plane for the Navy. Designated the XF4U-1 and designed around the XR-2800-A Pratt & Whitney Double Wasp engine, then in its early experimental stage, the design configuration of this new airplane featured an inverted gull-wing and sleek fuselage lines without external struts or braces. The XF4U-1 made its maiden flight on May 29, 1940, from the Bridgeport, Conn., Municipal Airport. It's designer was Rex Beisel, now general manager of Chance Vought.

Many chapters would be required to tell the complete combat story of the F4U Corsair during the recent war. Embodied in such a history would be a resume of step by step battles from Guadalcanal to Tokyo and of heroes like Commander John T. (Tommy) Blackburn, who led the famous "Blackburn's Irregulars" to the top record of achievement against the Japanese, or Major Robert G. Owens, commander of the "Fighting Corsairs" Marine Squadron, or Lieut. Col. Gregory L. (Pappy) Boyington, of the famous "Black Sheep" Squadron. Included, also, would be the story of the four separate Army-Navy "E" awards made to Chance Vought for the production miracle achieved at the Stratford plant. The evolution of the F4U from the "-1" series through the current "-4" version saw few outward changes in the design of the airplane.

Flying Pancake and Jet

V-J Day did not bring Chance Vought production to a halt although the assembly lines were slowed considerably. Since the Corsair was still tops in its class and standard fighter-bomber equipment for many Navy and Marine Air squadrons, it was necessary to continue a schedule that would provide ample replacements for airplanes that had served so long and so well during the war years.

As that production continued Chance Vought engineers were readying still another successor to the F4U-4. The new airplane, the F4U-5, was designed around the new improved Pratt & Whitney Double Wasp (R-2800) engine.

Still other projects were development of another experimental Navy fighter plane of radical flying-wing design—the XF5U-1. To aid Chance Vought engineers in the test work a full-scale flying model of the XF5U-1, known as the V-173 and called the "flying pancake," was constructed and test flights begun. The designers predicted a speed range of from 40 to 450 miles an hour for the new flying wing and hoped to lower the minimum speed to 0 (hovering flight) and to increase maximum top speed to about 500 miles an hour with further research and development on power plants.

Another Navy shipboard fighter utilizing the tremendous power of a jet engine also was in the development stage. In late 1946 the first experimental model of this plane, the XF6U-1 Pirate, had been constructed and was undergoing early experimental flight testing at Muroc Dry Lake, Calif.

The wheels of industry are still turning at Chance Vought. The designers and engineers constantly labor to maintain the Vought tradition of keeping a "step ahead" which characterized the thinking from the days of 1917 through to this time.

So, even if Chance Milton Vought isn't around to see it, the job is being done. The performance of the airplanes produced today proves soundness of design and engineering, developed over a span of 31 years.

This month the organization begins its move to Dallas where it will occupy a large portion of the former North American Aviation factory. Transfer of Chance Vought to Texas from Stratford was based on many reasons, not the least of which is the need for larger and more practical engineering facilities. In the tradition founded by Chance Vought himself, the firm is primarily an engineering development organization. ★ ★ ★

AIR REPORT

(Continued from page 5)

fied an 85-hp. Silvaire by installing 8 wing tanks and a fuselage tank for a total supply of about 145 gals. of fuel, or about 24 hours' supply weighing 870 lbs. He will probably gross 2,100 lbs., with an empty weight of about 800 lbs.

824 Air Medals for CAP

The first of 824 Air Medals recently authorized for members of the Civil Air Patrol's 21 wartime anti-submarine patrol squadrons have been presented in Philadelphia by Major General Lucas V. Beau, national CAP commander. Ceremonies will be conducted throughout the country for presentation of the remaining Air Medals. In making the awards, the Air Force has cited the CAP's wartime accomplishments as including 5,684 special missions in connection with convoys; sighted and reported 171 submarines; summoned help for 181 vessels in distress; detected and reported 17 mines laid by subs in front of convoys; found and called help for 363 survivors of torpedoed ships; observed and reported 863 instances of irregular conduct of ships at sea; broke up in a night flying program the routine signaling between German subs and enemy agents ashore. All this was done in privately-owned, single-engine lightplanes by volunteers — 24,000,000 miles of flight patrol at sea between March 1, 1942, and August 1, 1943, when the sub menace was overcome. The cost was 90 planes and 26 men lost.

Short Snorts

New Travelairs for cotton dusters may be built to order at Natchitoches, Louisiana, by Raymond Breazeale, long-time Louisiana duster and aviation leader. Ray has the original drawings and prints for the Travelair, flying favorite of dusters for years. "Nobody has ever built an airplane for cotton dusting that can perform like the Travelair," says Ray. "I may build a few for myself and other operators who appreciate a good airplane and the work it will do to earn them a living." . . . Misha Kantor, former Luscombe engineer who designed that firm's experimental single-seater after the war, was scheduled to flight-test his new 4-place all-metal low-wing at Bridgeport, Connecticut, last month. . . . Dee Hollowell of Continental Motors says 85-hp. engines used in the Goodyear-class racing planes are holding up impressively under excessive crankshaft speeds and horsepower output. . . . Cross-country pilots swear that Piper's little powered kite, the Vagabond, does an honest 90 and that its 65 Lycoming uses only 3 to 3½ gals. of gas hourly, giving economical performance that's hard to believe. . . . Sam Dunlap, ex-AAF colonel whose ideas and hard work put Slick Airways into the air freight business, is manufacturing furniture in San Antonio. He turned down several airline offers after resigning from Slick. ★ ★ ★

OBSOLESCENT AIRPORTS

(Continued from page 39)

What is to be done? To forestall airline tendencies to move, these points should be remembered by local planners:

1. Reduce all approach and other hazards even at considerable expense. If it means leveling a knoll, relocating a highway or something else, do it.
2. Put the airport in condition to have ILS installed even if a few buildings have to be moved or something else of similar nature undertaken.
3. Remember that the possibility of rendering reliable and safe service is much more important than is ground time from airport to city. ★ ★ ★

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